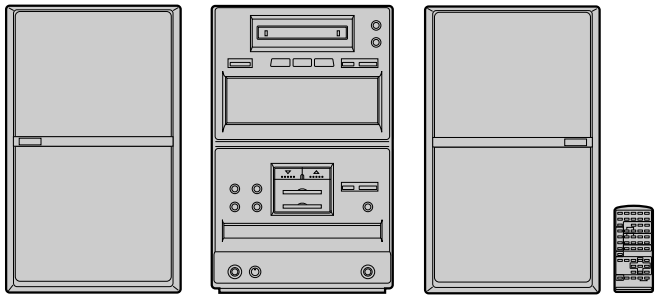
SHARP SERVICE MANUAL

No. S0781MDX5H///



MD-X5H
CP-X5H

MD-X5H and CP-X5H constitute MD-X5H.

- In the interests of user-safety the set should be restored to its original condition and only parts identical to those specified should be used.

- **Note for users in UK**
  Recording and playback of any material may require consent which SHARP is unable to give. Please refer particularly to the provisions of Copyright Act 1956, the Dramatic and Musical Performers Protection Act 1956, the Perfmers Protection Acts 1963 and 1972 and to any subsequent statutory enactments and orders.

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SHARP CORPORATION

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The contents are subject to change without notice.

SAFETY PRECAUTION FOR SERVICE MANUAL

WARNINGS (CD)

THE AEL (ACCESSIBLE EMISSION LEVEL) OF THE LASER POWER OUTPUT IS LESS THAN CLASS 1 BUT THE LASER COMPONENT IS CAPABLE OF EMITTING RADIATION EXCEEDING THE LIMIT FOR CLASS 1. THEREFORE IT IS IMPORTANT THAT THE FOLLOWING PRECAUTIONS ARE OBSERVED DURING SERVICING TO PROTECT YOUR EYES AGAINST EXPOSURE TO THE LASER BEAM.

1-WHEN THE CABINET IS REMOVED, THE POWER IS TURNED ON WITDOUT A COMPACT DISC IN POSITION AND THE PICK-UP IS ON THE OUTER EDGE THE LASER WILL LIGHT FOR SEVERAL SECONDS TO DETECT A DISC. DO NOT LOOK INTO THE PICK-UP LENS.

2-THE LASER POWER OUTPUT OF THE PICK-UP UNIT AND REPLACEMENT SERVICE PARTS ARE ALL FACTORY PRE-SET BEFORE SHIPMENT.
DO NOT ATTEMPT TO RE-ADJUST THE LASER PICK-UP UNIT DURING REPLACEMENT OR SERVICING.

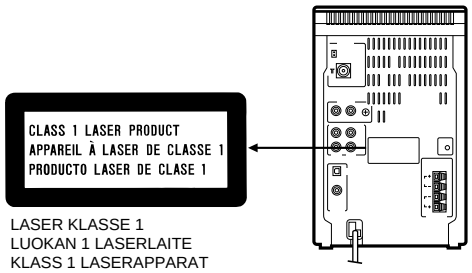
3-UNDER NO CIRCUMSTANCES STARE INTO THE PICK-UP LENS AT ANY TIME.

4-CAUTION-USE OF CONTROLS OR ADJUSTMENTS, OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

WARNINGS (MD)

The AEL (ACCESSIBLE EMMISSION LEVEL) of the laser power output is less than class 1 but the laser component is capable of emitting radiation exceeding the limit for class 1. Therefore it is important that the following precautions are observer during servicing to protect your eyes against exposure to the laser beam.

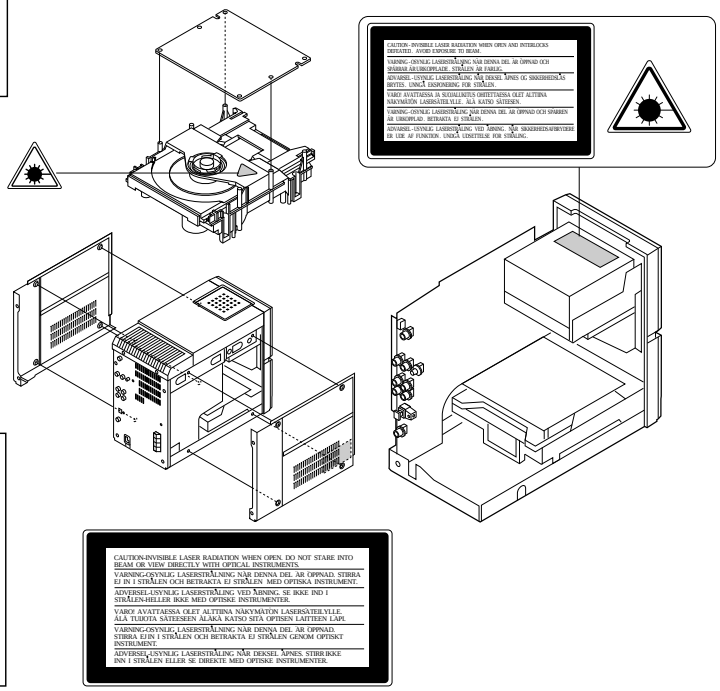
1) When the unit case cover is removed and LOADING SW (SW 1956) is turned on and then PLAY SW (SW 1954 mechanism PWB) is turned on in a few second.
   The laser will light for several second to detect a disk.
2) The laser power output of the pickup unit and replacement service parts are all factory pre-set before shipment.
   Do not attempt to re-adjust the laser pick-up unit during replacement or servicing.
3) Under no circumstances stare into the pickup lens at any time.
4) If laser optical unit becomes faulty, replace the complete laser optical unit.
5) CAUTION-USE of controls or adjustments, or performance of procedures other than those specified herein may result in hazardous radiation exposure.



LASER KLASSE 1
LUOKAN 1 LASERLAITE
KLASS 1 LASERAPPARAT

LASER TŘÍDY 1

LASER TRIEDY 1



VAROITUS! LAITTEEN KÄYTTÄMINEN MUULLA KUIN TÄSSÄÅ KÄYTTÖOHJEESSA MAINITULLA TAVALLA SAATTAA ALTISTAA KÄYTTÄJÄN TURVALLISUUSLUOKAN 1 YLITTÄVÄLLE NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE.

VARNING - OM APPARATEN ANVÄNDS PÅ ANNAT SÄTT ÄN I DENNA BRUKSANVISNING SPECIFICERAS. KAN ANVÄNDAREN UTSÄTTAS FÖR OSYNLIG LASERSTRÅLNING, SOM ÖVERSKRIDER GRÄNSEN FÖR LASERKLASS 1.

VARO ! Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen.
VARNING! Osynlig laserstralning när denna del är öppnad och spärren är urkopplad. Betrakta ej strålen.

Precaution to be taken when replacing and servicing the laser pickup.
The following precautions must be observed during servicing to protect your eyesvagainst exposure to the laser.
Warning of possible eye damage when repairing:
If the AC power plug is connected when the inner cover of the unit is removed, the laser will light up during focus
access (about 1 second) (Fig. 2-1).
During this operation, the laser will leak from the opening between the magnetic head and cartridge holder (Fig. 2-2).
In order to protect your eyes, you must not look at the laser during repair.
Before repairing, be sure to disconnect the AC power plug.

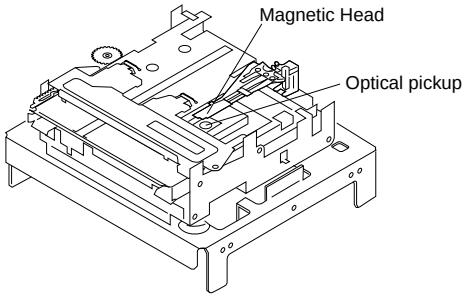


Figure 2-1

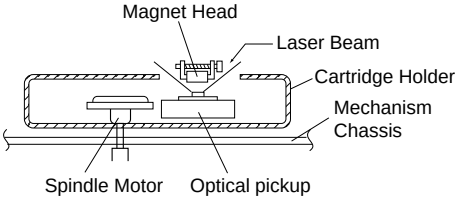


Figure 2-2

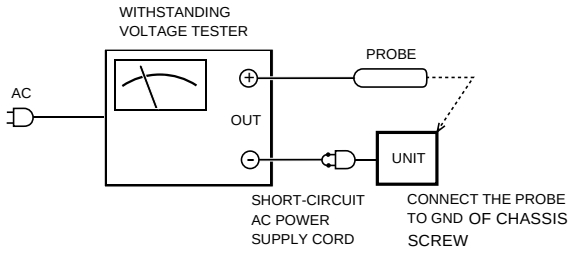
FOR A COMPLETE DESCRIPTION OF THE OPERATION OF THIS UNIT, PLEASE REFER TO THE OPERATION MANUAL.

IMPORTANT SERVICE NOTES (FOR UK ONLY)

Before returning the unit to the customer after completion of a repair or adjustment it is necessary for the following withstand voltage test to be applied to ensure the unit is safe for the customer to use.

Setting of Withstanding Voltage Tester and set.

Set name	set value
Withstanding Voltage Tester	
Test voltage	4,240 VPEAK 3,000 VRMS
Set time	6 secs
Set current(Cutoff current)	4 mA
Unit	
Judgment	
OK: The “GOOD” lamp lights. NG: The “NG” lamp lights and the buzzor sounds.	



SPECIFICATIONS

MD-X5H

■ Main unit section

(MiniDisc recorder section)

Type: MiniDisc recorder
Signal readout: Non-contact, 3-beam semi-conductor laser pick-up
Audio channel: Stereo; 2 channel
Monaural; 1 channel (long-time recording mode)
Frequency response: 20 - 20,000 Hz
Rotational speed: 400 - 900 rpm CLV, Approx.
Quantization: 16-bit linear
Filter: 8-times oversampling digital filter
Error correction: ACIRC (Advanced Cross Interleave Reed-solomon Code)
Coding: ATRAC (Adaptive Tranceformed Acoustic Coding)
Recording Method: Magnetic modulation overwrite method
D/A converter: 1-bit
Sampling frequency: 44.1 kHz
Wow and flutter: Unmeasurable
(less than 0.001% W. peak)
Signal/noise ratio: 95 dB (1kHz)
Dynamic range: 90 dB (1kHz)
T.H.D at 1 kHz: 0.1%

(Compact disc player)

Type: Compact disc player
Signal readout: Non-contact, 3-beam semi-conductor laser pickup
Rotational speed: 200 - 500 rpm CLV, Approx.
Error correction: CIRC (Cross Interleave Reed-Solomon Code)
Quantization: 16-bit linear
D/A converter: 1-bit
Filter: 4-times oversampling digital filter
Frequency response: 20 - 20,000 Hz
Signal/noise ratio: 95 dB (1 kHz)
Dynamic range: 90 dB (1 kHz)
Wow and flutter: Unmeasurable
(less than 0.001% W. peak)

(Tuner section)

Frequency range: FM; 87.5 - 108 MHz
AM; 522 - 1,620 kHz
Sensitivity: FM; 8.0 µV (75 ohms, unbalanced)
AM; 650 µV/m

(General)

Power source: AC 230 V, 50 Hz
Power consumption: 80 W
Output power: PMPO; 80 W (total)
MPO; 40 W (20 W+20 W) DIN 45 324
RMS; 25 W(12.5 W+ 12.5 W) DIN 45 324
Input terminals: Auxilialy (Analog); 2.0 V (30 kohms)
Auxilialy (Digital-1)
Auxilialy (Digital-2)
Phono; 2.5 mV (10 kohm)
Output terminals: Headphones; 16-50 ohms
(recommended; 32 ohms)
Speakers; 6 ohms
Line out (Analog); 2.0 V (47 kohm)
Dimensions: Width; 150 mm (5-15/16")
Height; 241 mm (9-1/2")
Depth; 307 mm (12-1/8")
Weight: 4.3 kg (9.5 lbs.)

CP-X5H

■ Speaker section

Type: 2-way 120 mm (4-3/4") woofer and 50 mm (2") tweeter type
Maximum input power: 25 W
Rated input power: 12.5 W
Impedance: 6 ohms
Dimensions: Width; 146 mm (5-3/4")
Height; 241 mm (9-1/2")
Depth; 229 mm (9-1/8")
Weight: 2.2 kg (4.9 lbs.)/each

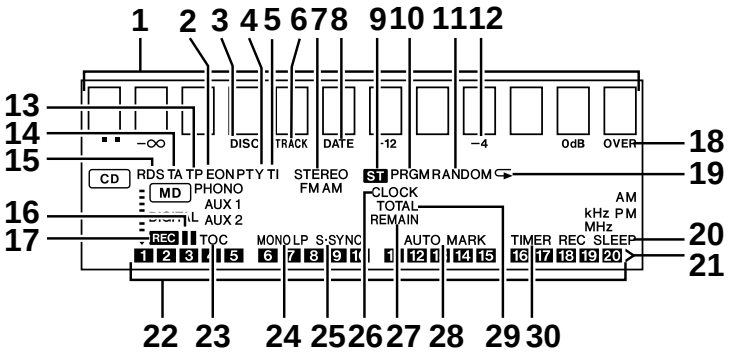
Specifications for this model are subject to change without prior notice.

NAMES OF PARTS

MD-X5H

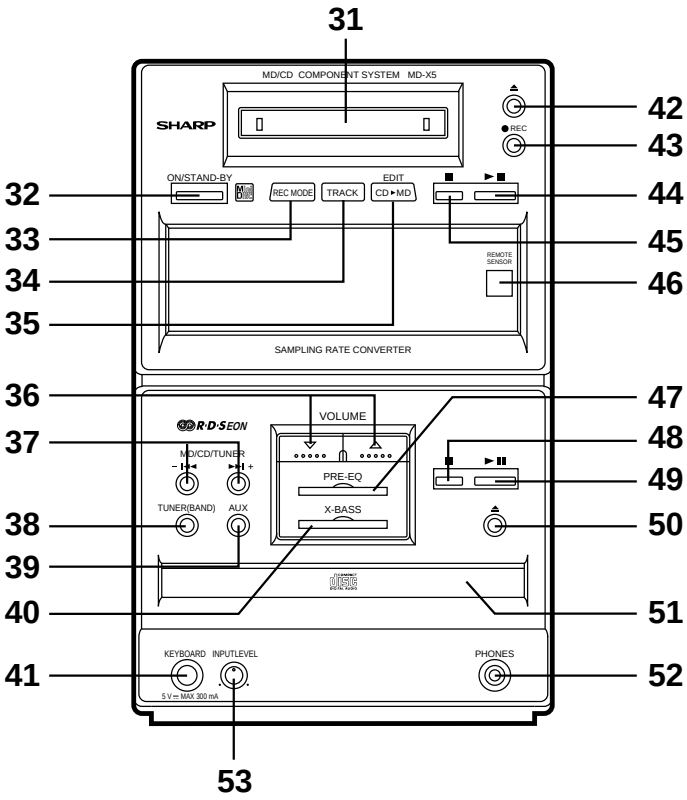
■ Display window

1. Level meter/Character Information Display
2. EON Indicator: EON
3. Disc Name Indicator: DISC
4. Programme Type Indicator: PTY
5. Traffic Information Indicator: TI
6. Track Name Indicator: TRACK
7. FM Stereo Indicator: STEREO
8. Data Indicator: DATE
9. FM Stereo Indicator: ST
10. Program Indicator: PRGM
11. Random Play Indicator: RANDOM
12. Recording Level Indicator
13. Traffic Programme Indicator: TP
14. Traffic Announcement Indicator: TA
15. RDS Indicator: RDS
16. MD Pause Indicator: ▮▮
17. MD Record Indicator: REC
18. Recording Level Too High Indicator
19. Repeat Indicator: ⮌
20. Sleep Indicator: SLEEP
21. More Tracks Indicator: >
22. Music Schedule Indicators
23. MD TOC Indicator: TOC
24. Recording Mode Indicator: MONO LP
25. Sound Synchro Indicator: S. SYNC
26. Clock Indicator: CLOCK
27. Remaining Time Indicator: REMAIN
28. Auto Mark Indicator: AUTO MARK
29. Total Time Indicator: TOTAL
30. Timer/Timer Record Indicator



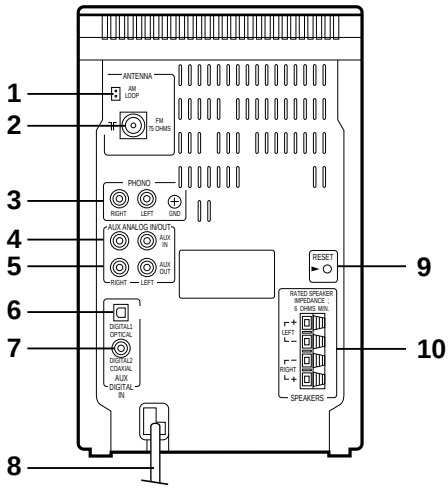
■ Front panel

31. MD Slot
32. On/Stand-by Button: ON/STAND-BY
33. Recording Mode Button: REC MODE
34. CD Track Select Button: TRACK
35. CD ► MD Edit Button
36. Volume Up/Down Buttons: ▽/△
37. ⏮/⏭ .-/+ Buttons
38. Tuner Call (Band Select) Button: TUNER(BAND)
39. Auxiliary Select Button: AUX
40. Extra Bass Button: X-BASS
41. Keyboard Input Terminal
42. MD Eject Button: ▲
43. MD Record Button: ● REC
44. MD Play/Pause Button: ►▮▮
45. MD Stop Button: ■
46. Remote Sensor
47. Pre-program Equalizer Button: PRE-EQ
48. CD Stop Button: ■
49. CD Play/Pause Button: ►▮▮
50. CD Open/Close Button: ▲
51. CD Tray
52. Headphoned Jack: PHONES
53. Input Level Control: INPUT LEVEL



MD-X5H

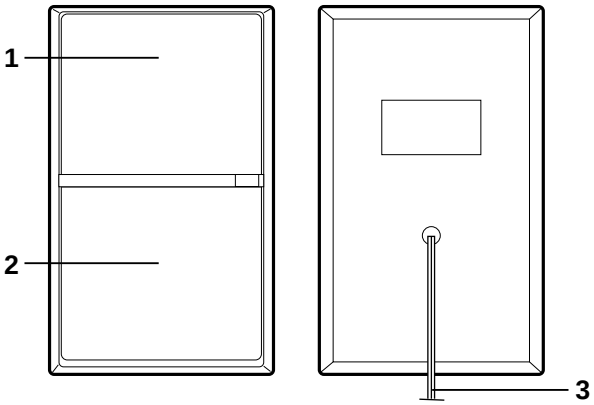
■ Rear Panel



1. AM Loop Aerial Input Socket
2. FM 75 ohms Aerial Socket
3. Phono Input Sockets
4. Auxiliary Analog Input Jacks
5. Auxiliary Analog Output Jacks
6. Auxiliary Digital Input Jack (Optical)
7. Auxiliary Digital Input Jack (Coaxial)
8. AC Power Cord
9. Reset Button
10. Speaker Terminals

CP-X5H

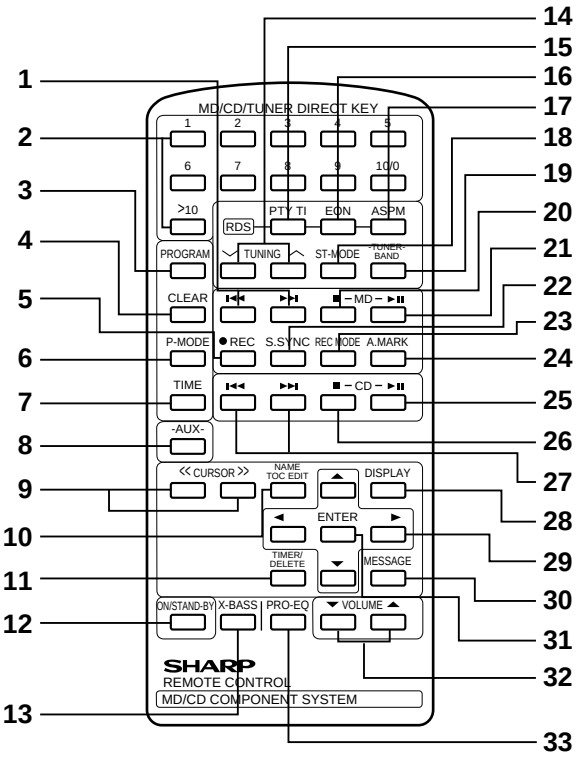
■ Speaker section



1. Tweeter
2. Woofer
3. Speaker cord

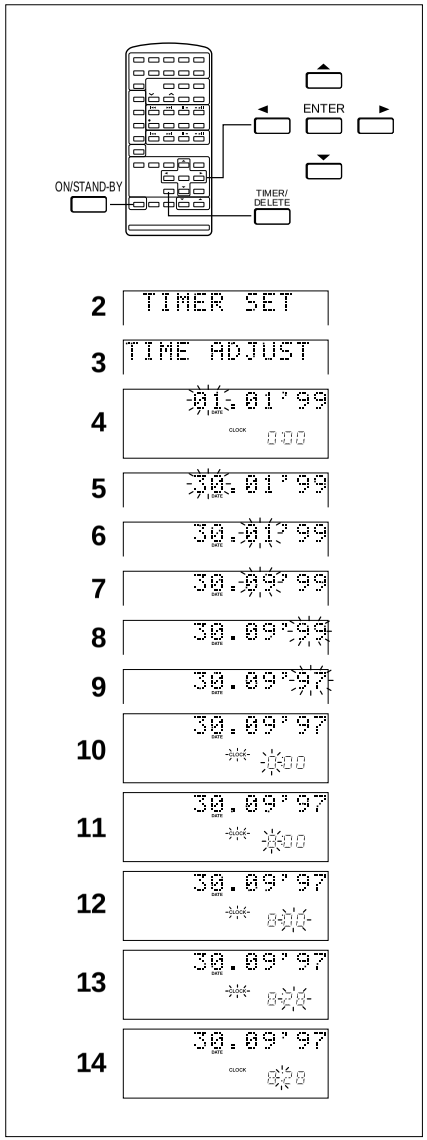
MD-X5H

■ Remote Control



1. MD Track Up/Down, Cue/Review Buttons: I◄◄/►►I
2. Tuner Preset CD/MDTack Number InputButtons
3. Program Button: PROGRAM
4. Clear Button: CLEAR
5. MD Record Button: ● REC
6. Play Mode Button: P-MODE
7. Time Display Select Button: TIME
8. Auxiliary Select Button: AUX
9. Cursor Buttons: CURSOR
10. Name/TOC Edit Button: NAME/TOC EDIT
11. Timer/Delete Button: TIMER/DELETE
12. On/Stand-by Button: ON/STAND-BY
13. Extra Bass Button: X-BASS
14. Tuning Up/Down Buttons: ∨/∧
15. Programme Type/Traffic Information Search Button: PTY TI
16. EON Button: EON
17. ASPM Button: ASPM
18. FM Stereo Mode Button: ST-MODE
19. Tuner Call (Band Select) Button: TUNER/BAND
20. MD Stop Button: ■
21. MD Play/Pause Button: ►II
22. Sound Synchro Button: S. SYNC
23. Recording Mode Button: REC MODE
24. Auto Mark Button: A.MARK
25. CD Play/Pause Button: ►II
26. CD Stop Button: ■
27. CD Track Up/Down, Cue/Review Buttons: I◄◄/►►I
28. Display Button: DISPLAY
29. ▲▼◄► Buttons
30. Message Button: MESSAGE
31. Enter Button: ENTER
32. Volume Up/Down Buttons: ▽/△
33. Pre-programme Equalizer Button: PRE-EQ

SETTING THE CLOCK



When you have set the date and time, this unit can be used as a clock. It can be used for timer recording or for timer playback. It is also used to store the MD recording date in memory.

1 Press the ON/STAND-BY button to turn the power on.

2 Press the TIMER/DELETE button.

3 Within 10 seconds, press the ▲ or ▼ button to select "TIME ADJUST".

4 Within 10 seconds, press the ENTER button.

- The unit will enter the date setting mode.

5 Adjust the day by pressing the ◀ or ▶ button.

6 Press the ENTER button to set the date.

7 Adjust the month by pressing the ◀ or ▶ button.

8 Press the ENTER button to set the month.

9 Adjust the year by pressing the ◀ or ▶ button.

- Press the button once to increase or decrease the year by one. Keep pressing it to advance continuously.
- For a year after 2000, set "00" for 2000, "01" for 2001 and so on.

10 Press the ENTER button to set the year.

- The unit will enter the time setting mode.

11 Adjust the hour by pressing the ◀ or ▶ button.

- Press the button once to increase or decrease the hour by one. Keep pressing it to advance continuously.

12 Press the ENTER button to set the hour.

13 Adjust the minute by pressing the ◀ or ▶ button.

- Press the button once to increase or decrease the minutes by one. When the button is held down, the time will change in increments of 5 minutes.

14 Press the ENTER button to set the minute.

- The clock will start operating.
- When about 3 seconds have elapsed, the original display will reappear.

Notes:

- In the event of a power failure or when the AC power lead is disconnected, the clock display will go out.
  When the AC power supply is restored, the clock display will flash on and off to indicate the time when the power failure occurred or when the AC power lead was disconnected.
- Whilst recording an MD, you cannot set the date and clock. Be sure to set the date and clock before recording.
- The range of dates that can be entered is from January 1, 1997 to December 31, 2049.

To change the setting:

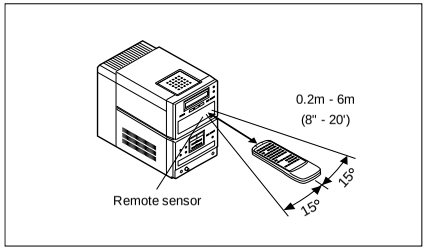
- Once you have set the date and time, "TIME ADJUST" will not be displayed in step 3. Press the ▲ or ▼ button to make the date and time appear.
- If you don't need to change the settings, just press the ENTER button.

To check the date and time:

Press the TIMER/DELETE button, and press the ▲ or ▼ button until the date and time appear.

- When about 10 seconds have elapsed, the original display will reappear.

PREPARATION FOR USE



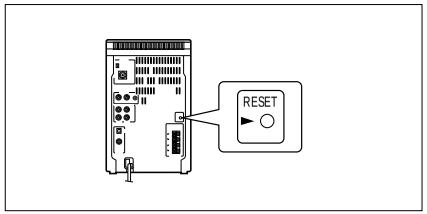
Notes concerning use:

- Replace the batteries if the control distance decreases or operation becomes erratic.
- Periodically clean the transmitter LED on the remote control and the sensor on the main unit with a soft cloth.
- Exposing the sensor on the main unit to strong light may interfere with operation. Change the lighting or the direction of the unit.
- Keep the remote control away from moisture, excessive heat, shock, and vibrations.

MINIDISC SYSTEM LIMITATIONS

Even if the maximum recording time of a MiniDisc is not reached, "DISC FULL" or "TOC FULL" may be displayed.	When the number of tracks used reaches the limit, regardless of the remainder being recording time, further recording will be impossible. (Maximum number of tracks: 255)
Even if the number of tracks and the recording time have not reached the limit, "DISC FULL" may be displayed.	When emphasis information (equalizer treatment in the treble section) in a track switches on/off many times, each change is assumed to be the beginning of a new track, which will quickly use up all available track numbers, making further recording impossible, regardless of the remaining time, recording time or the number of tracks on the original.
Even if several short tracks are erased, the remaining recording time may not show an increase.	When the remaining recording time of a disc is displayed, short tracks less than 15 seconds long may not be included in the total.
Two tracks may not be combined in editing.	For MiniDiscs which repeated recording and editing operations were performed, the COMBINE function may not work.
The total of the recorded time and time remaining on a disc may not add up to the maximum possible recording time.	A cluster (about 2 seconds) is normally the minimum unit of recording. So, even if a track is less than 2 seconds long, it will use about 2 seconds of space on the disc. Therefore, the time actually available for recording may be less than the remaining time displayed. If there are scratches on a disc, those sections will be automatically avoided (no recording will be placed in those sections). Therefore, recording time will be reduced.

TROUBLESHOOTING



■ If a problem occurs

If this product is subjected to strong external interference (mechanical shock, excessive static electricity, abnormal supply voltage due to lightning, etc.) or if it is operated incorrectly, it may malfunction or the display may not function correctly. If such a problem occurs, do the following:

1 Unplug the AC power lead from the AC socket.

2 Press the RESET button on the back of the unit for at least 3 seconds.

3 Plug the AC power lead back into the AC socket.

- When the RESET button is pressed, all of the settings in memory will be erased.
- If strange sounds, smells or smoke come out of the unit, or if a foreign object falls into the unit, turn off the power, unplug the AC power lead from the AC socket immediately. Contact the shop where you purchased the unit.

(Continued)

When an error message is displayed, proceed as follows:

Error messages	Meaning	Remedy
BLANK MD	• Nothing is recorded. (Neither music nor a disc name have been recorded on this MD.)	• Replace the disc with a recorded disc.
Can't COPY	• You tried to record from a disc which you are not allowed to copy.	• Replace it with another disc which you can copy from (regular CD).
Can't EDIT	• A track cannot be edited.	• Change the stop position of the track and then try editing it.
Can't REC	• Recording cannot be performed correctly due to vibration or shock in the unit.	• Rerecord or replace it.
DEFECT	• Since this disc has scratches on it, the recording operation was skipped.	• Replace the disc with another recordable disc.
Din UNLOCK	• Incorrect digital signals are input.	• Connect correct digital signals. • Use analogue inputs.
DISC ERR*	• The disc is damaged or there is no TOC on the disc.	• Reload the disc or replace it.
DISC FULL	• The disc is out of recording space.	• Replace the disc with another recordable disc.
EDIT OVER	• There is no space left for recording CD.	• Replace it with another recordable disc.
FOCUS ERROR	• The proper focus cannot be obtained.	• Reload the disc.
MD ERROR	• The unit has determined that it is out of order by performing a self-diagnosis.	• Ask the store where you purchased this unit, about repairs.
MECHA ERR*	• There is a mechanical problem and the disc is not working properly.	• Turn off the power, and press the ⏏ button.
NAME FULL	• The number of characters for the disc name or track name exceeds 100.	• Shorten the disc or track name.
NO DISC	• A disc has not been loaded. • The disc data cannot be read.	• Load a disc. • Reload the disc.
NOT AUDIO	• The data recorded on this disc is not audio data.	• Select another track. • Replace the disc.
PLAYBACK MD	• You tried to record on a playback-only disc.	• Replace it with a recordable disc.
PROTECT	• The unit has determined that it is out of order by performing a self-diagnosis.	• Turn the power off and back on. If the problem is not resolved, ask the store where you purchased this unit, about repairs.
PROTECTED	• The disc is write protected.	• Move the write protection tab back to its original position.
TEMP OVER	• The temperature is too high.	• Turn off the power, and wait for a while.
TOC ERR*	• The disc has a large amount of damage. • TOC information cannot be read. • The MD does not meet the specifications for MDs.	• Replace the disc with another disc.
TOC FULL*	• There is no space left for recording character information (track names, disc names, etc.).	• Replace it with another recordable disc.
TOC W ERROR	• The unit has determined that it is abnormal by performing a self-diagnosis.	• Ask the store where you purchased this unit, about repairs.
U TOC ERR*	• The TOC information on this disc does not meet the MD specifications or it cannot be read.	• Replace it with another disc. • Erase all the data, and try recording.
U TOC W ERROR	• The TOC information could not be created properly due to a mechanical shock or to scratches on the disc.	• Turn off the power, and try to write the TOC again. (Remove any source of shock or vibration whilst writing.)
? DISC	• The data contains an error.	• Replace the disc with another disc.
0 00:00	• Music is not recorded.	• Replace the disc with a recorded disc.

*: Number or symbol

DISASSEMBLY

Caution on Disassembly

Whe disassembling the machine or assenbling it after repair, observe the following instructions so as to ensure safety and keep its performance.

1. Unload the compact disc, and mini-disc from machine.
2. Be sure to unplug the power cable before starting disasembly of the machine.
3. When disassenbling each section, remove the nylon band or wire arrangement.
   If a screw of improper length is fit to the MD mechanism. (a screw fit the part to the mechanism chassis of MD section), it may cantact the optical pickup, impeding normal operation. Hence, due care must be taken.
4. While repairing, pay utmost attention to static electricity on ICs.

MD-X5H

STEP	REMOVAL	PROCEDURE	FIGURE
1	Top Cabinet	1. Screw ..... (A1) x4	8-1
2	Side Panel (Left/Right)	1. Screw ..... (B1) x10	8-1
3	Rear Panel	1. Screw ..... (C1) x6 2. Socket ..... (C2) x1	8-1 8-2
4	Power Amp. PWB	1. Screw ..... (D1) x2 2. Socket ..... (D2) x4	8-2
5	Main PWB	1. Screw ..... (E1) x2 2. Socket ..... (E2) x4 3. Flat Wire ..... (E3) x1	8-2 8-3
6	MD Holder (MD Unit)	1. Screw ..... (F1) x4 2. Socket ..... (F2) x1 3. Flat Cable ..... (F3) x1	8-3
7	Power Supply PWB	1. Screw ..... (G1) x4	8-3
8	CD Holder (CD Mechanism/ CD Servo PWB)	1. Screw ..... (H1) x4 2. Socket ..... (H2) x1 3. Flat Wire ..... (H3) x1	9-1
9	Front Panel	1. Screw ..... (J1) x2	9-1
10	Display PWB	1. Screw ..... (K1) x10	9-1
11	Jack PWB	1. Screw ..... (L1) x2	9-2
12	CD Servo PWB (Note 1)	1. Screw ..... (M1) x3	9-3
13	CD Mechanism	1. Screw ..... (N1) x3	9-4
14	MD Mecha Unit	1. Screw ..... (P1) x7	9-5
15	MD Main PWB	1. Screw ..... (Q1) x4 2. Socket ..... (Q2) x6	9-6
16	MD Mechanism	1. Screw ..... (R1) x4	10-1

CP-X5H

STEP	REMOVAL	PROCEDURE	FIGURE
1	Front Panel	1. Net ..... (A1) x2 3. Screw ..... (A2) x6	10-2~5
2	Speaker	1. Screw ..... (B1) x4	10-6
3	Tweeter	1. Screw ..... (C1) x2	10-6

Note 1: After disconnecting the optical pickup connector wrap the front end of connector in the conductive aluminium foil so as to prevent electrostatic damage of optical pickup.

MD-X5H

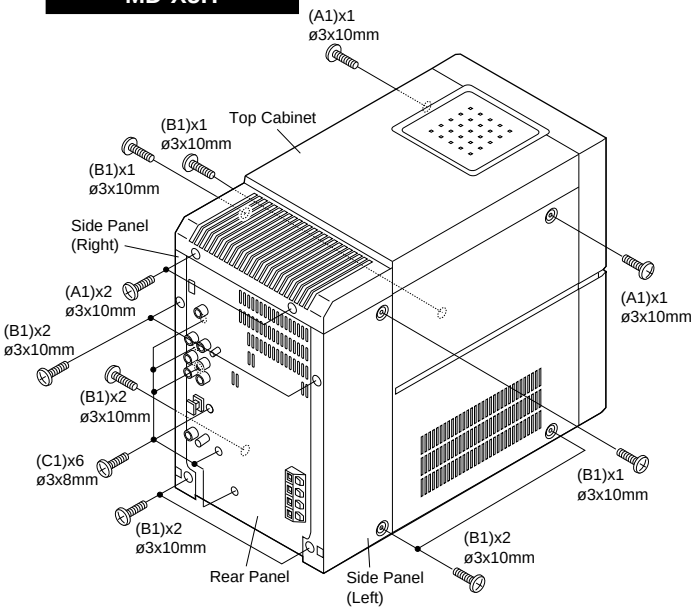


Figure 8-1

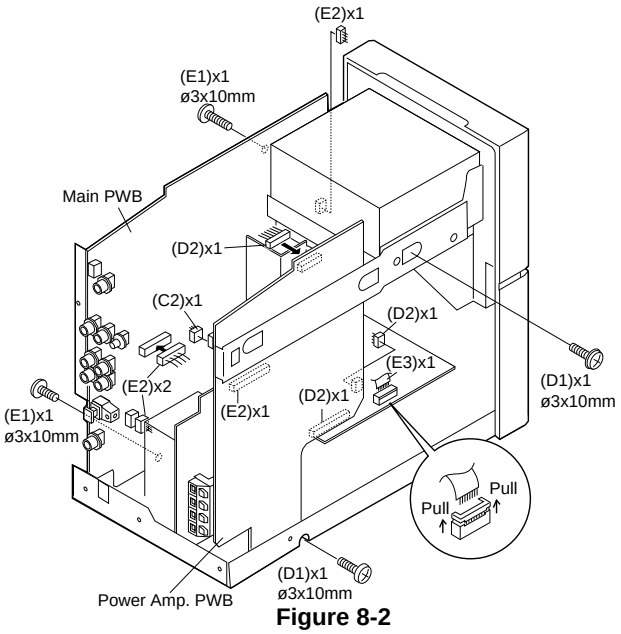


Figure 8-2

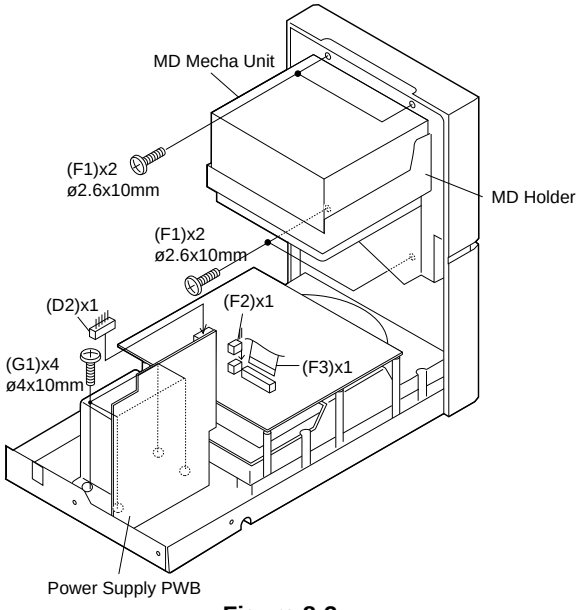


Figure 8-3

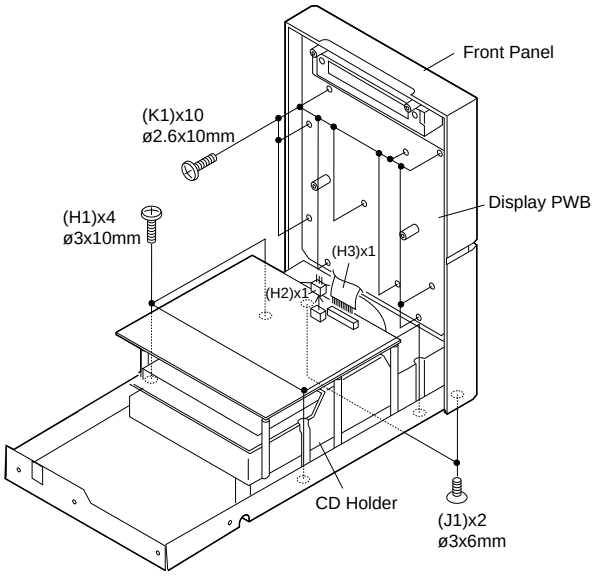


Figure 9-1

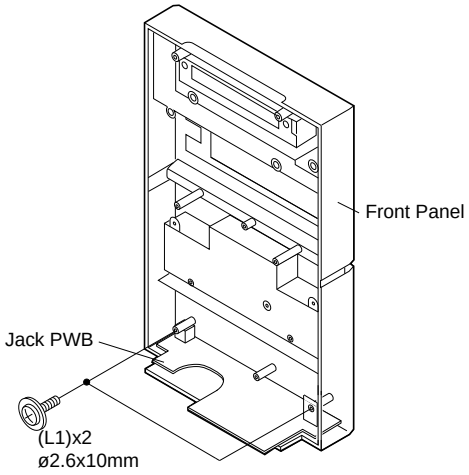


Figure 9-2

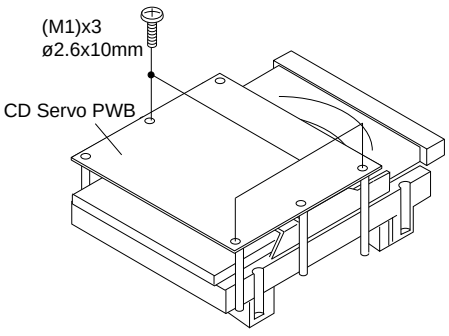


Figure 9-3

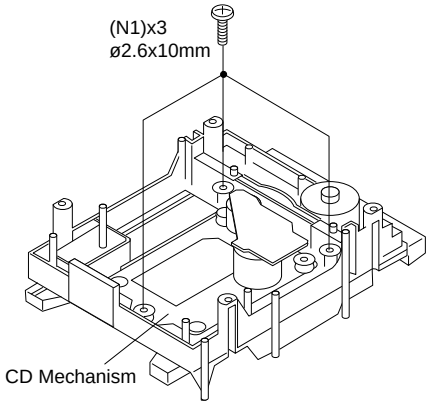


Figure 9-4

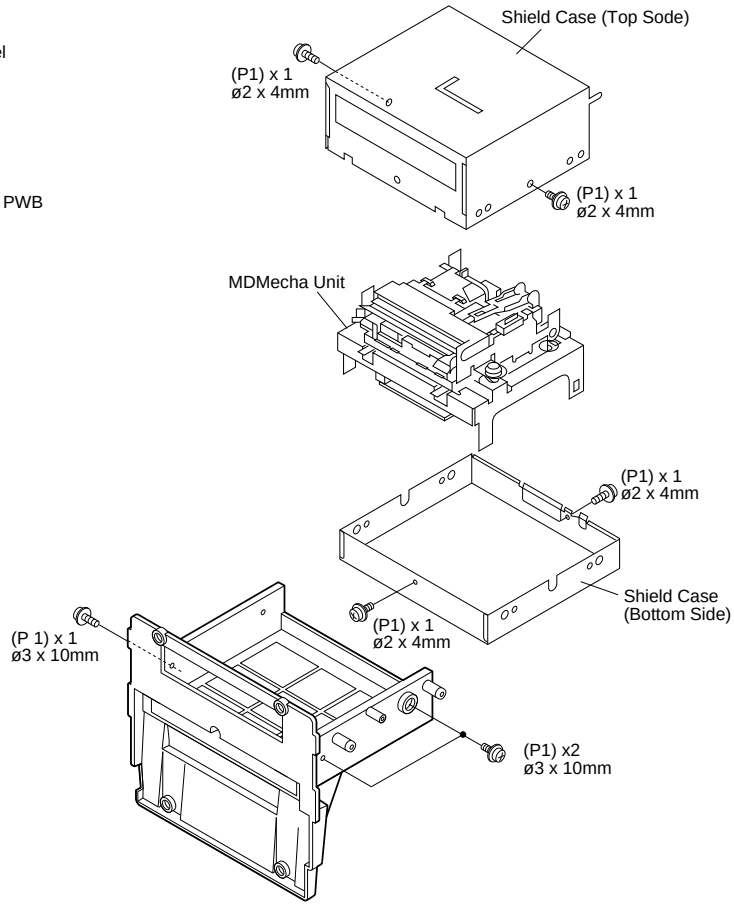
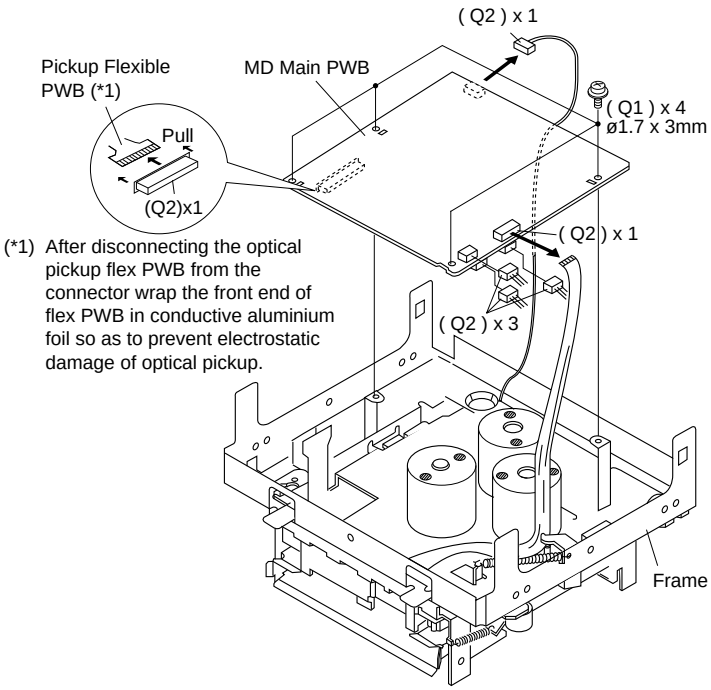


Figure 9-5



(*1) After disconnecting the optical pickup flex PWB from the connector wrap the front end of flex PWB in conductive aluminium foil so as to prevent electrostatic damage of optical pickup.

Figure 9-6

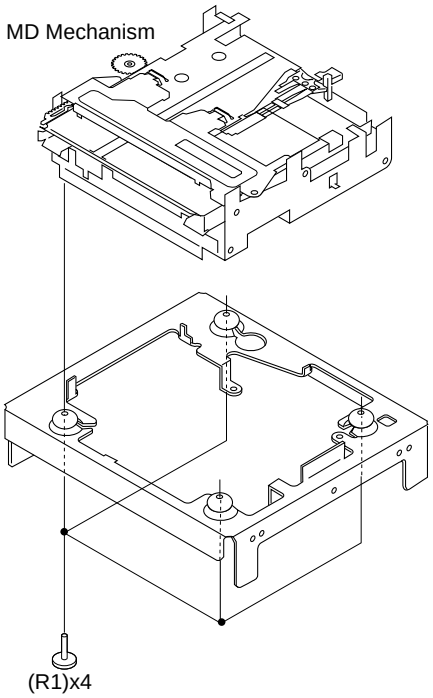


Figure 10-1

CP-X5H

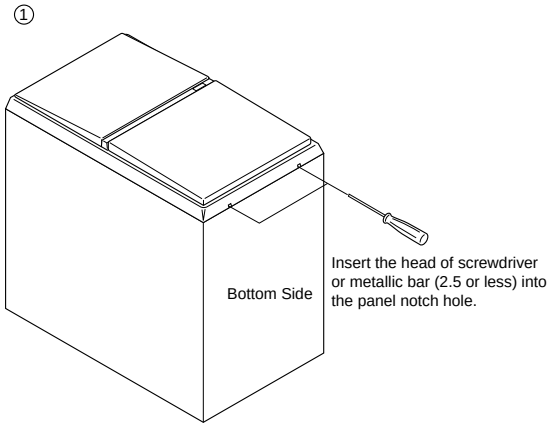
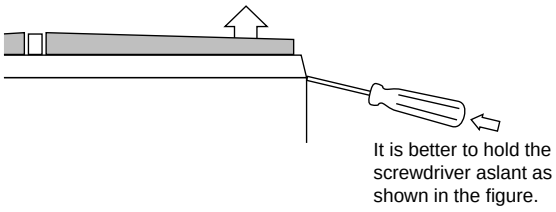


Figure 10-2

② Insert the head of screwdriver into the hole, and push further the screwdriver, pulling up the net. Thereby the lower pawl is disengaged



③ After disengaging the lower pawl pull slightly in the arrow direction ①, and then pull in the direction ②. Thereby the net can be removed.

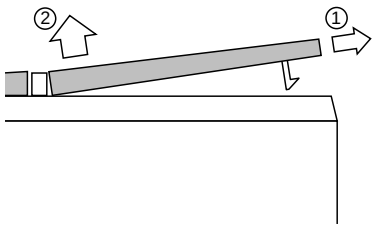
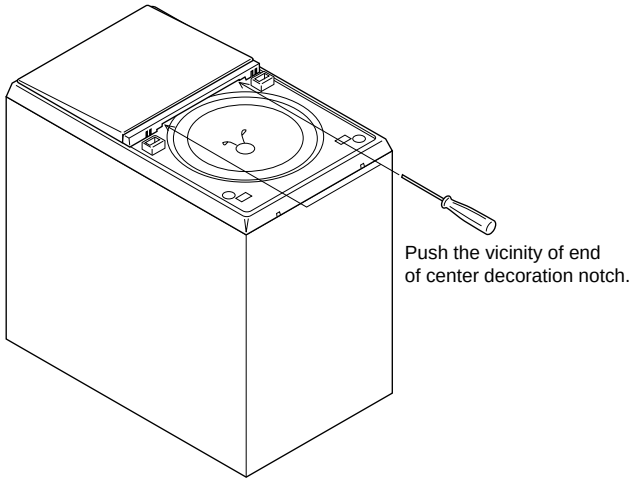


Figure 10-3

④



⑤ Insert the head of screwdriver near ④ , push further the screwdriver, pulling up the net. Thereby the lower pawl is disengaged (at first disengage at one side and then at other side).

⑥ After disengaging both pawls disengage the upper pawl by the same procedure as stated in ③ above.

Figure 10-4

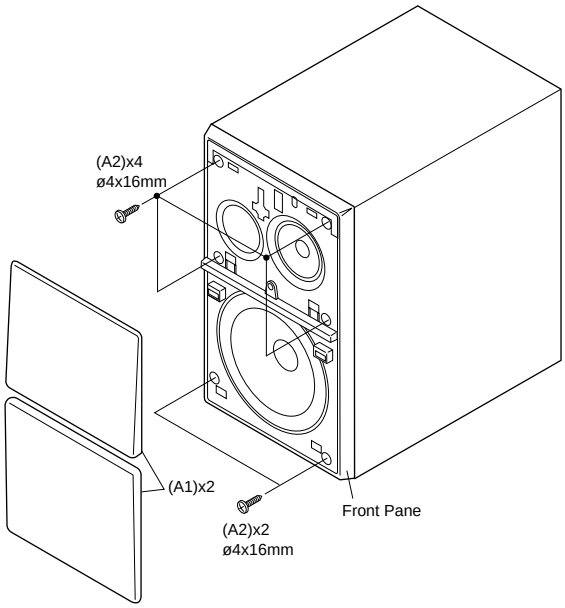


Figure 10-5

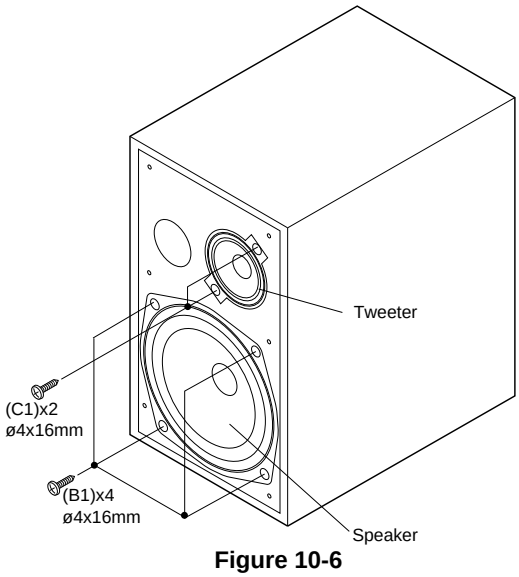


Figure 10-6

REMOVING AND REINSTALLING THE MAIN PARTS

MD MECHANISM SECTION

Perform steps 1 to 3 of the disassembly method to remove the MD mechanism.

How to remove the magnetic head (See Fig. 11-1)

1. Remove the screws (A1) x 1 pc.

Caution:

Take utmost care so that the magnetic head is not damaged when it is mounted.

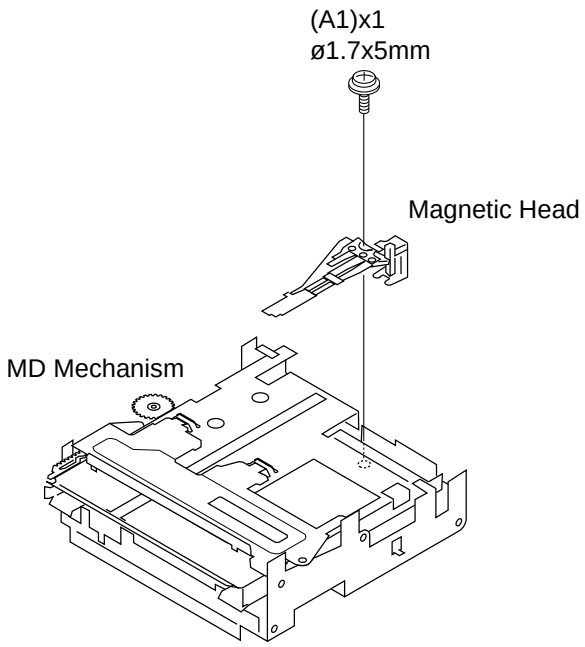


Figure 11-1

How to remove the cartridge holder (See Fig. 11-2)

1. Open the rpller arm lever in the arrow direction, and lower the clamper lever to the rear side.
2. Apply +5V to the red line side of blue connector of loading motor, push the rack gear in the arrow direction to move the cam plate lever until tick is heard.
3. Remove the screw (B1) x1 pc., and the spring (B2) x1 pc., fitted to the holder arm, and shift the cartridge holder to the left side to remove it.

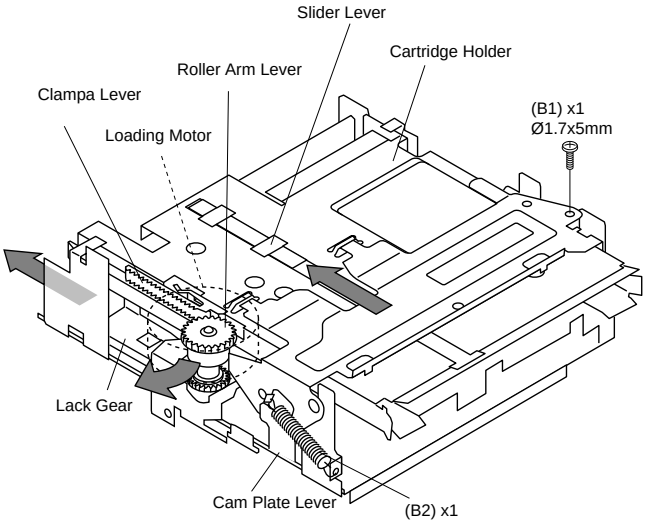


Figure 11-2

How to remove the mechanism switch PWB (See Fig. 11-3)

1. Remove the screws (C1) x 2 pcs., and remove the mechanism switch PWB.

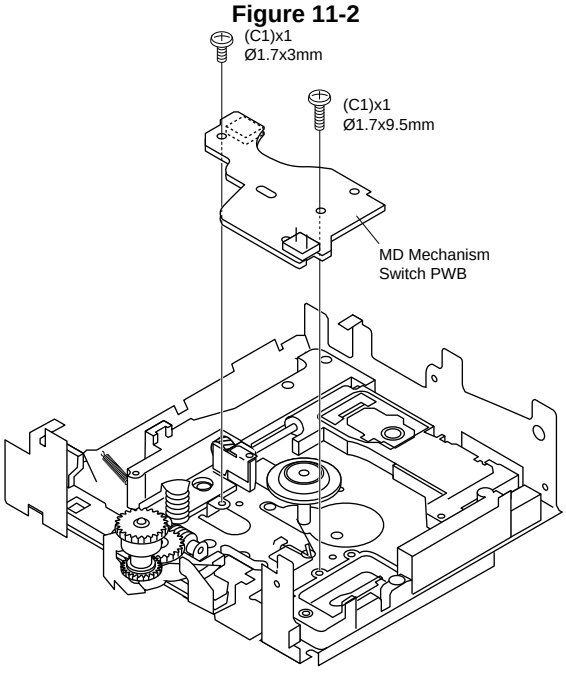


Figure 11-3

MD-X5H/CP-X5H

How to remove the sled motor/loading motor (See Fig. 12-1)

1. Remove the screws (D1) x 1 pcs., and remove the sled motor/loading motor.

Caution:
Be careful so that the gear is not damaged.
(The damaged gear emits noise during searching.)

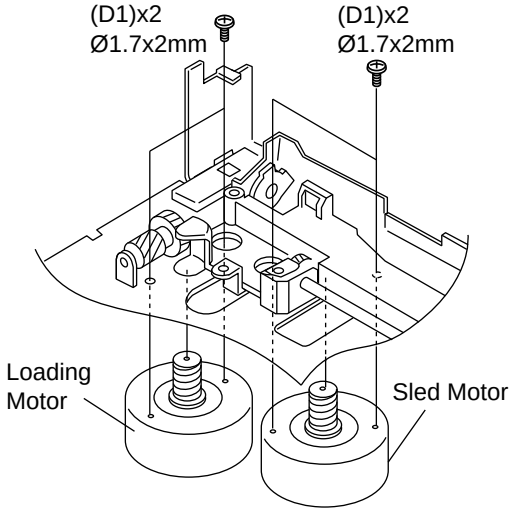


Figure 12-1

How to remove the spindle motor (See Fig. 12-2)

1. Remove the screws (E1) x 3 pcs., and remove the spidle motor.

Caution:
Be careful so that the turntable is not damaged.

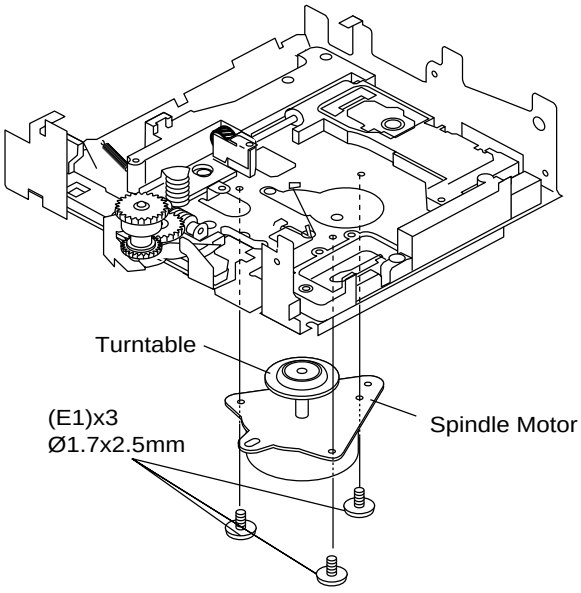


Figure 12-2

How to remove the optical pickup (See Fig. 12-3)

1. Remove the screws (F1) x 3 pcs.

Caution:
Be careful so that the gear is not damaged.
(The damaged gear emits noise during searching.)

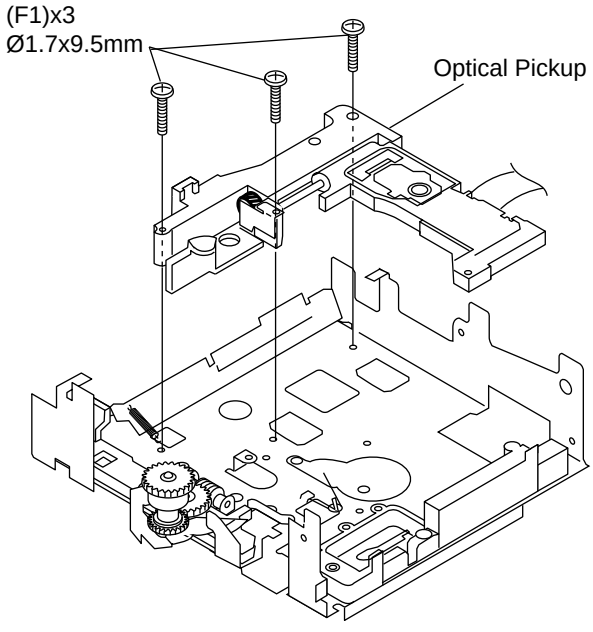


Figure 12-3

CD MECHANISM SECTION

Perform steps 1,to 7 and 12 of the disassembly method to remove the CD mechanism.

How to remove the pickup (See Fig. 13-1)

1. Remove the screw (A1) x 2 pcs., to remove the shaft (A2) x 1 pc.
2. Remove the stop washer (A3) x 1 pc., to remove the gear (A4) x1 pc.
3. Remove the pickup.

Note:

After disconnecting the optical pickup connector wrap the front end of connector in the conductive aluminium foil so as to prevent electrostatic damage of optical pickup.

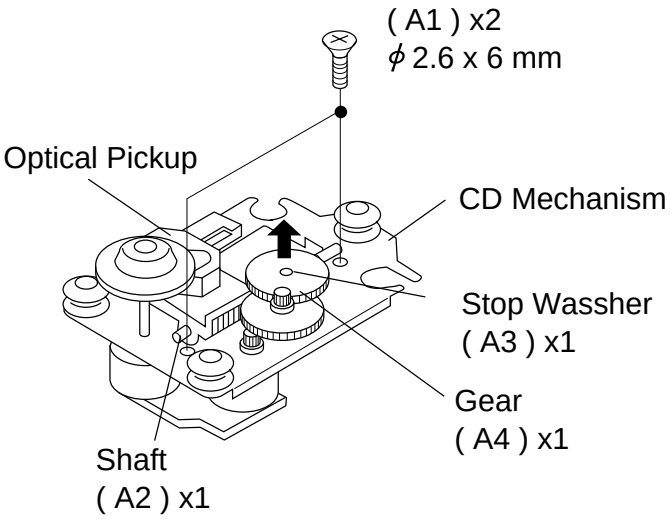


Figure 13-1

How to remove the CD loading motor (See Fig. 13-2)

1. Remove the belt (B1) x 1 pc.
2. Remove the screw (B2) x 2 pcs.
3. Remove the loading motor.

Note:

After disconnecting the optical pickup connector wrap the front end of connector in the conductive aluminium foil so as to prevent electrostatic damage of optical pickup.

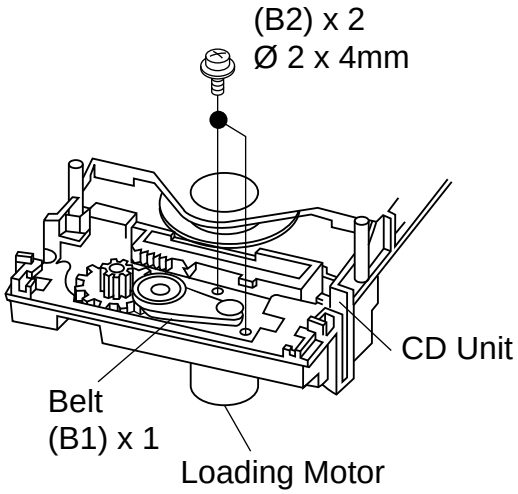


Figure 13-2

ADJUSTMENT

TUNER SECTION

fL: Low-range frequency
fH: High-renge frequency

• AM IF/RF

AM Signal oscillator Frequency 400 Hz, 30% modulation

Adjusting item	Adjusting object	Adjusting method
IF	T351 Indication of set must be 1,620 kHz.	IF waveform 450 kHz is set to max.
Frequency cover (Voltage of Pin 20 IC302 VT line)	fL: T302 (522 kHz) Set Diplay of 522 kHz.	fL: 1.1 ± 0.1 V fH: 5.1 ± 1.3 V of (Only check)
Tracking	fL: T302 (990 kHz)	Set output of speaker terminal to maximum.

• FM Mute Level

FM Signal oscillator Frequency 400 Hz, 22.5 kHz

Adjusting method	Adjusting method	Adjusting object	Adjusting object
98.0 MHz (30 dB)	98.0 MHz	VR351	Input: SO301 Output: Speaker Terminal

• Setting the Test Mode

Holding down the PRE-EQ button and TUNER(BAND) button, press the POWER button. Frequency is set in the memory as shown in Table 19. Call it with the PRESET button for tuner circuit adjustment and check.

Preset No.	Frequency	Preset No.	Frequency
P01	87.5 MHz	P06	522 kHz
P02	108.0 MHz	P07	1,620 kHz
P03	90.0 MHz	P08	603 kHz
P04	106.0 MHz	P09	1,404 kHz
P05	98.0 MHz	P10	990 kHz

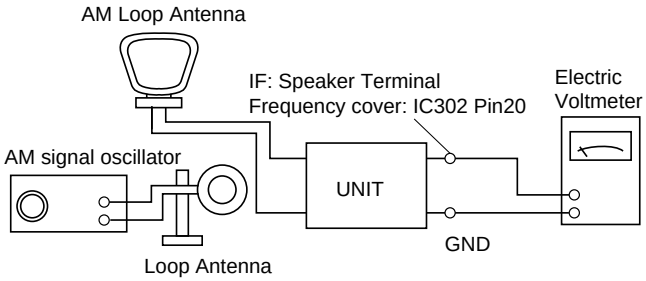


Figure 14-1 AM IF

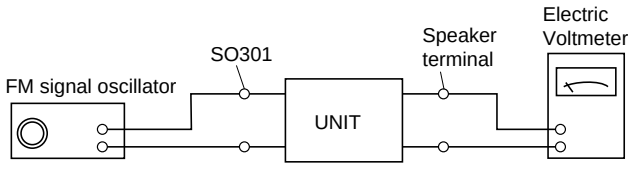


Figure 14-2 FM Mute Level

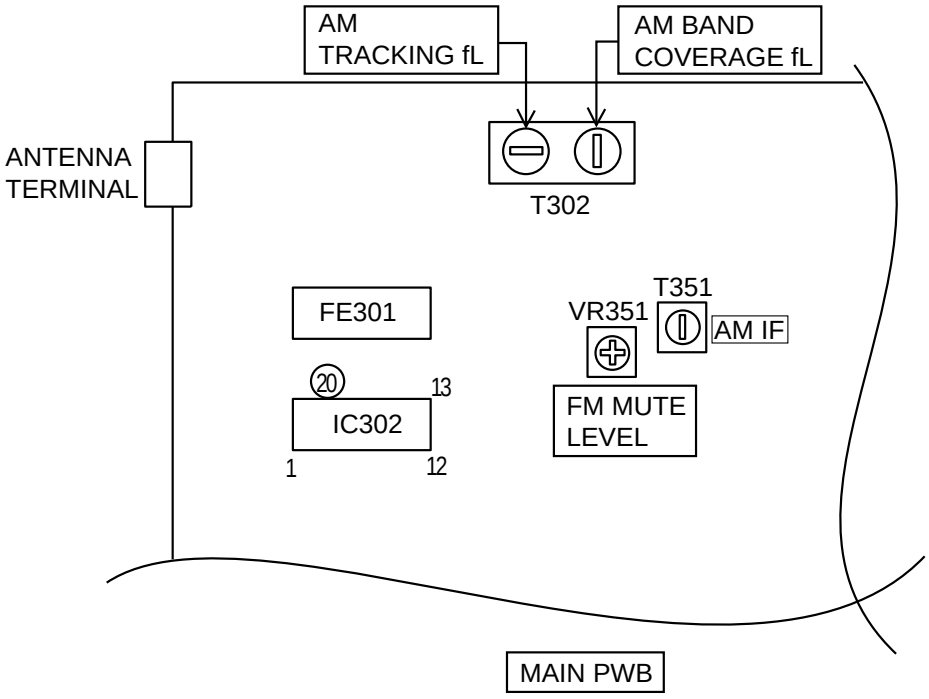


Figure 14-3 ADJUSTMENT POINTS

CD TEST MODE

CD test mode setting

Any TEST mode can be set as shown below by pressing several buttons.
Holding down TACK UP/CUE and CD PLAY/PAUSE, turn on POWER.

Test Mode
Function - CD TEST mode
Test mode setting
CD TEST mode indication
Open/Close operation is ▲ button.
The pickup can be moved with the (▶▶I) or (I◀◀) button.

Initialization is not executed.

- <TRACK>
  On-spot tracking
  Servo OFF playback
- <CD>MD EDIT>
  On-spot tracking
  Servo ON playback
- <PLAY> button input - TOC. Initialization is executed, and normal PLAY is executed.
  Press the <STOP> button. ——— Stop
  If the following button is pressed during PLAY, any track No. can be specified directly.
  <TUNER (BAND)> button: Track 4
  <AUX> button: Track 9
  <X-BASS> button: Track 15

Note:
The pickup can be moved with the (▶▶I) or (I◀◀) button only in STOP state.
Cancel method: POWER OFF

CD section

The CD system has the following automatic adjusting function. Therefore readjustment is not required when the pickup is replaced. Since adjustment of this CD unit is not required, the combination of PWB and laser pickup unit is not restricted.
Automatic adjustment items

1. Focus Offset (Fig. 15-1)
2. Tracking Offset (Fig. 15-2)
3. E/F Balance (Tracking Error Balance) (Fig. 15-3)
4. R/F level AGC function (HF level: Constant)
5. Tracking gain RF level automatic follow-up
   This adjustment is executed whenever the disc is changed. Therefore the optimum setting is used for playback of each disc.

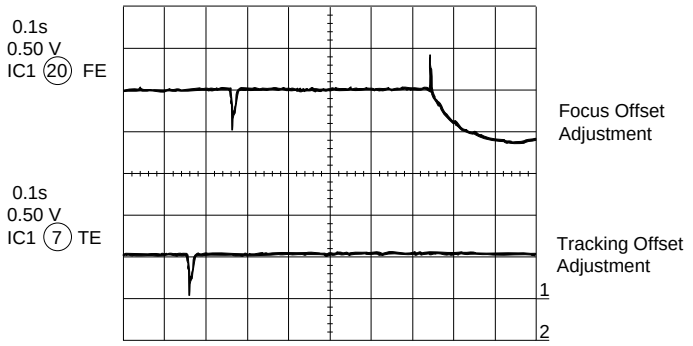


Figure 15-1

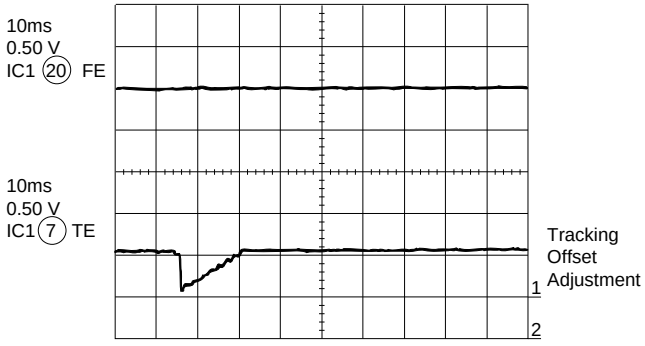


Figure 15-2

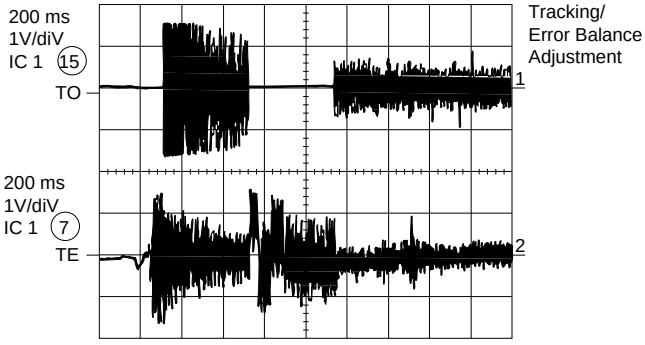
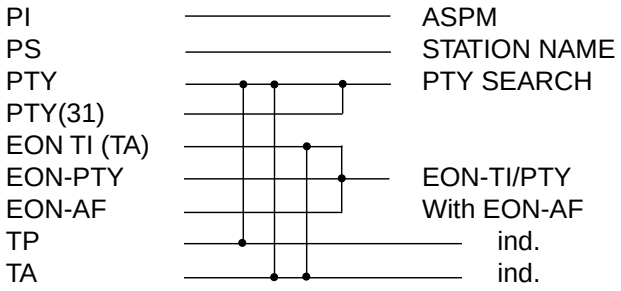


Figure 15-3

MD-X5H/CP-X5H

RDS

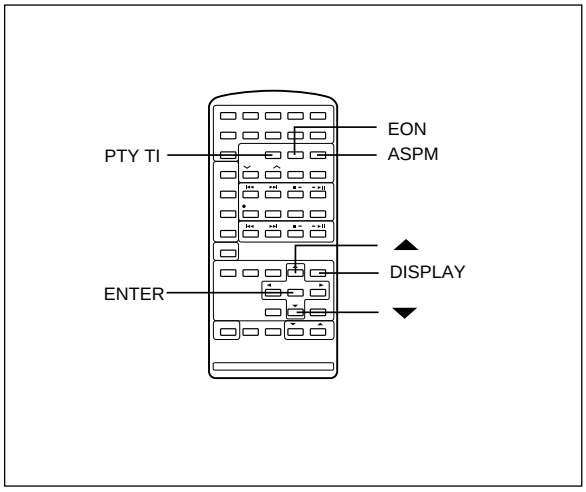
1. RDS Function



Select and search (18 kind items) by cyclic
NEWS-AFFAIRS ------ OTHER M - ALARM - TP - TA

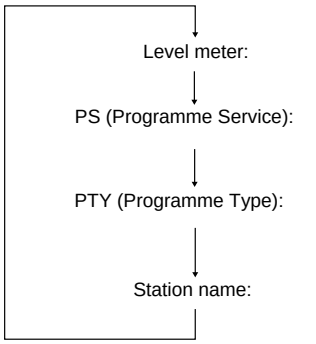
Select and stand-by (17 kind items) by cyclic
NEWS-AFFAIRS ------ OTHER M - ALARM - TI

2. DISPLAY and control buttos



■ Information Provided by RDS

With the MD-X5H, you can watch two types of RDS service. To show them on the display, press the DISPLAY button.
Each time you press the DISPLAY button, the display will change to show the following information.



Level meter

Station names commonly known will be displayed. "PS: " appears if no signal is being sent.

Programme type will be displayed.
"PTY: " appears if no signal is being sent.

Station name you assigned. (Preset station)

Descriptions of the PTY (Programme Type) codes, TP (Traffic Programme) and TA (Traffic Announcement)
With the MD-X5H, you can search for and receive the following PTY, TP and TA signals.

News:	News
Affairs:	Topical programme expanding on the current news or affairs
Info:	Programmes on medical service, weather forecast, etc.
Sport:	Sports events
Educate:	Educational programmes
Drama:	Radio plays
Culture:	Programmes on national or regional culture
Science:	Programmes on national sciences and technology
Varied:	Other programmes like comedies or ceremonies
Pop M:	Pop music
Rock M:	Rock music
M.o.R. M:	Middle-of-the-road music (usually called "easy listening")
Light M:	Light music
Classics:	Classics
Other M:	Other music
Alarm:	Emergency broadcasts
NONE:	No programme type (receive only)
TP:	Broadcasts which carry traffic announcements
TA:	Traffic announcements are being broadcast at present.

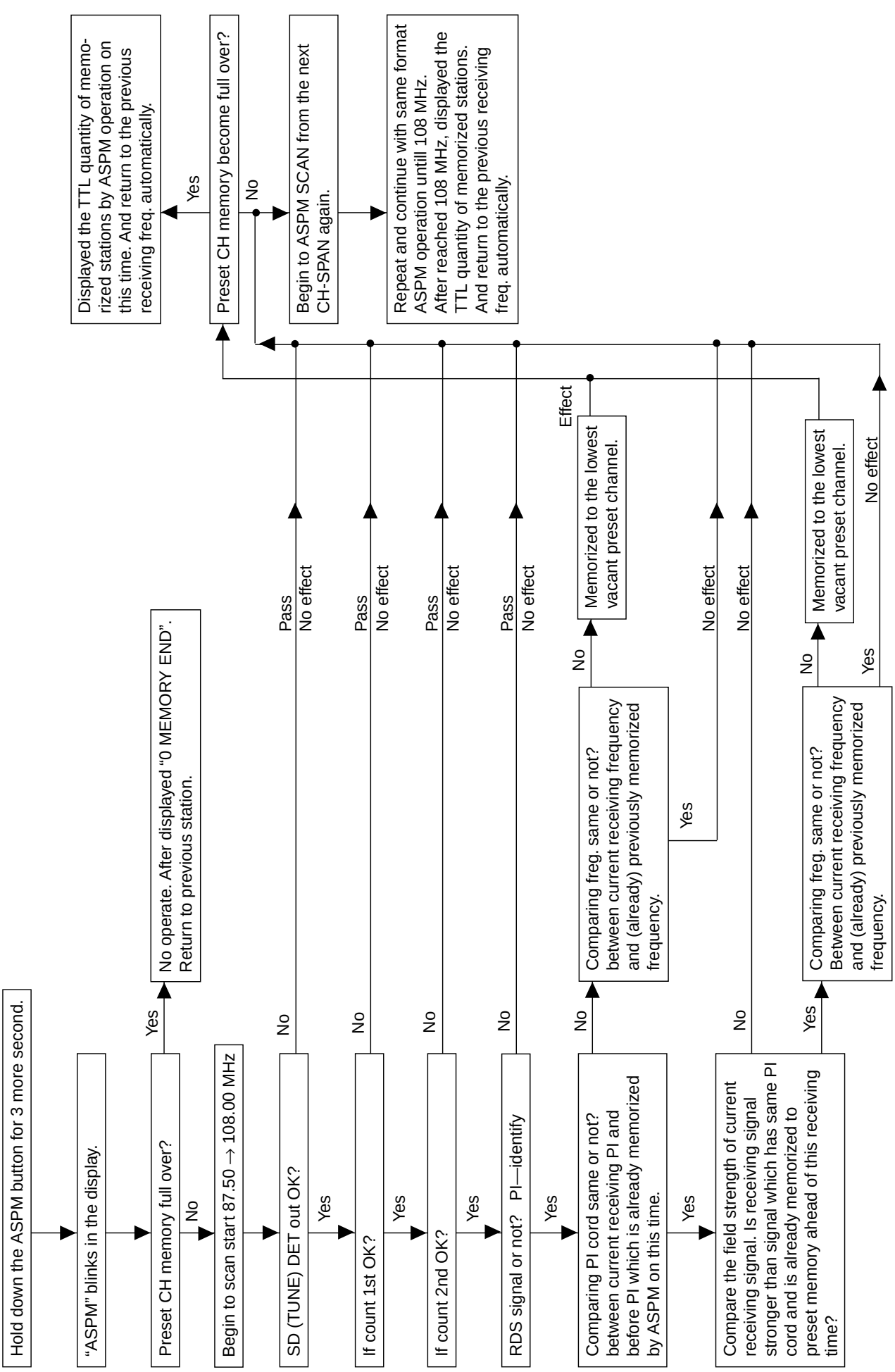
Note:

- When the unit is in the EON stand-by mode and a programme is selected, the unit will display "TI" instead of "TP" or "TA".

Note:
TP and TA ind. are different from CD-C75H.
TP, TA ind. can light up individually, when TP: OFF and TA: ON, it means that EON-TI can be used, in case of TP=OFF, TA=OFF, EON-Ti can't be used.
In case of CD-C75H, (TP: OFF and TA: ON) disregard (ignore) this case, because EON-TI is nothing.

AF: Alternative Frequencycies

ASPM, summary operation

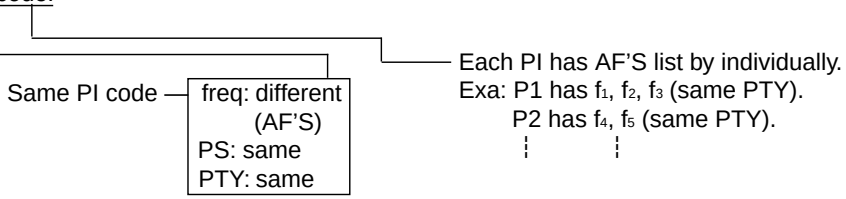

Hold down the ASPM button for 3 more second.
"ASPM" blinks in the display.
Preset CH memory full over?
Yes
No operate. After displayed "0 MEMORY END". Return to previous station.
No
Begin to scan start 87.50 → 108.00 MHz
SD (TUNE) DET out OK?
No
Pass
No effect
Yes
If count 1st OK?
No
Pass
No effect
Yes
If count 2nd OK?
No
Pass
No effect
Yes
RDS signal or not? PI—identify
No
Pass
No effect
Yes
Comparing PI cord same or not? between current receiving PI and before PI which is already memorized by ASPM on this time.
No
Effect
Memorized to the lowest vacant preset channel.
Yes
Comparing freq. same or not? between current receiving frequency and (already) previously memorized frequency.
No
No effect
Yes
Compare the field strength of current receiving signal. Is receiving signal stronger than signal which has same PI cord and is already memorized to preset memory ahead of this receiving time?
No
No effect
Yes
Comparing freq. same or not? Between current receiving frequency and (already) previously memorized frequency.
No
Memorized to the lowest vacant preset channel.
Yes
No effect
Preset CH memory become full over?
No
Begin to ASPM SCAN from the next CH-SPAN again.
Repeat and continue with same format ASPM operation untill 108 MHz. After reached 108 MHz, displayed the TTL quantity of memorized stations. And return to the previous receiving freq. automatically.
Yes
Displayed the TTL quantity of memorized stations by ASPM operation on this time. And return to the previous receiving freq. automatically.

MD-X5H/CP-X5H

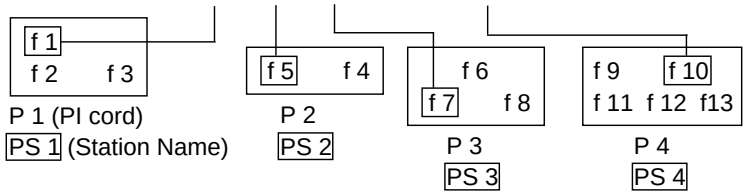
- ASPM SCAN: 87.50MHz → 108.00 MHz.
- Only RDS signal is memorized by ASPM because RDS signal has PI code and is suitable and convenient for ASPM operation.

ASPM

Comparing field strength, only one strongest RDS station is memorized of all stations (repeater relay stations) that have same PI code.



[For example] Pickup and memorized to preset CH.



Select signals (f1, f5, f7, f10) are memorized in the preset memory by ASPM.

- If tentative - ASPM operation is repeated intententionally, never memorized (over write) at the same frequecy. 1st time ASPM → strongest stations of each pi are memorized.

ASPM is not only very usefull for PTY search, but also EON operation.
2nd time ASPM → 2nd strong stations of each pi are memorized and so on.
PTY search function is equal to FM band search function as a result.

1. Introduction of RDS for MD-X5H

MD-X5H RDS function is equal to adding EON feature to the current CD-C75H RDS.
EON feature is EON—PTY and EON—TI.
Although PTY and TI indicators are separated, PTY contains TI in the PTY items (software) like current PTY search items.

EON—PTY and EON—TI are basically stand-by → receive the desired program of ON station.

2.The difference point from current CD-C75H RDS. (CD-C75H — MD-X5H)

1. PTY item: added TA.TTL 18 kind.
2. Each "TP", "TA" ind. light up or go out individually.
   "TA" ind. doesn't light up on current model, CD-C75H due to none EON—TI.
3. Added 3 indicators(in FL) due to adding EON feature.
   EON: Lights up only during receiving EON data (14A).
   TI: During EON-TI stand-by → Light up
   During receiving ON station. → blink.
   PTY: During EON-PTY stanb-by → Light up
   During receiving ON station. → blink.
4. No adjust type (None adjusting circuit.)
5. Added EON button.
6. Need to change RDS logo due to add EON feature.
7. Added EON—TI, EON—PTY function.

3. Summary of MD-X5H RDS—EON operation

EON—PTY: Select and set the desired "PTY" → stand-by → switch to ON(other network) Station at the start of desired PTY automatically → stay and listen to PTY of ON station → switch back to TN(This net) station automati cally at the end of PTY(ON) i.e. after changing to another PTY(except AFFAIRS) or cancelling to receive PTY of ON station midway.

EON—TI: Select and set the "TI" → stand-by → switch to ON station at the start of traffic announcement automati cally → stay and listen to TA of ON station → switch back to TN station autmatically at the end of TA(ON). ie after TA(ON) is over or cancelled to receive TA of ON station midway.
When switching TN → ON station.
In case of exist 2 more stations having the desired(specified) "PTY" or "TI", the receiver will select and switch to ON station comparing field strength at the same time. But when the frequency of ON station exists in the preset-memory, then reciver switches straight to that ON station(CH), without comparing field strength so can make a quick switching from TN—ON station. Preset memory takes priority of switching TN—ON station.
therefore ASPM is usefull not only for PTY search but also for rapid EON switching. Anyway MD-X5H's EON is basically stand-by and receiving method, along with the Guidelines for EON implementation.

EON summary notice for reference

1. EON-TI/PTY EON stand-by can be set, only when EON ind. lights up.
   While EON ind. goes out (NO EON STATION), EON stand-by can't be set.
   If the EON button is pressed, then “NO EON” is indication the display.
2. EON-TI/PTY Even if switch back ON→TN station continue to keep EON stand-by.
3. EON-TI Don’t switch TN→ON during TN broadcast TA. (same item)
4. EON-TI/PTY EON can be cancelled during receiving ON station by pressing EON button if necessary and switch back ON→TN.
5. EON-TI/PTY EON stand-by is perfectly cancelled (cleared) by pressing EON button 2 times during stand-by or powerOFF or Tun Up/Down or change band or recall pre-set CH.
6. EON-TI/PTY After setting EON stand-by, stand-by items can be confirmed by pressing EON button one time.
7. EON-TI/PTY EON button function: • EON setting
   • Confirm stand-by items
   • Cancel (ON→TN)
   • EON clear cancel (2 times)
8. EON-TI/PTY After setting EON-TI and EON-PTY stand-by, if when EON data is not transmitted, EON ind goes out and EON stand-by is automatically cancelled display “NO EON”.
9. EON-TI EON-TI stand-by can't be set. When TP=0,TA=0(TN) even if EON ind. lights up and the EON button is pressed then “NO TI” is indication the display.
10. EON-PTY Don’t switch TN→ON during TN broadcast same specified PTY. (same item of PTY)
11. EON-TI/PTY Switch TN→ON→ TN station one cycle.
    Never switch TN→ON1→ON2→ Other net to other net station.
12. EON-TI/PTY After switch TN→ON station. When ON station is NO RDS, NO signal, TA=OFF or different PTY items. The receiver switch back ON→TN displaying “NO READY”.
13. During receive ON station. when ON station become to be NO RDS, NO signal, TA=ON to OFF or different PTY item, The receiver switch back ON→TN.
14. EON-TI/PTY Switch TN→ON in case of 2 more stations exist, comparing field strength and switch to the strongest station, if these signals are same strength, switch to the first previous station.
    If same frequency as AF'Sexists in the preset memory, then switch TN→ON (preset memory station) straight.
    In case of exist 2 more preset memories of AF’S,then switch to the preset CH which taken in EON DATA first, also in this case no concern to field strength.
15. Even if switch TN→ON preset memory straight, that ON station is very weak signal, then search another AF'S (ON) station comparing field strength and switch to the strongest station as a result. Of all atations of AF'S are very weak or no good condition, then, switch back ON→TN automatically display "NO READY".
16. EON-TI/PTY No linkage volume, power ON/OFF, and switch function.

Traffic Programme code (TP)	Traffic Announcement code (TA)	Applications
OFF	OFF	This programme does not carry traffic announcements nor does it refer, via EON, to a programme that does.
OFF	ON	This programme carries EON information about another programme which gives traffic information.
ON	OFF	This programme carries traffic announcements but none are being broadcast at present and may also carry EON information about other traffic announcements.
ON	ON	A traffic announcement is being broadcast on this programme at present.

MD SECTION

• Note

Remove the MD unit for repeir, and after installing it in the set, be dure to reset it and ascertain that reset has been done.

Resetting procedure (1) Unplug the AC cord from the socket, and hold down the RESET buttonm provided at the rear side for more than 10 seconds.

(2) Once set the TEST MODE (holding down the TEST MODE (X-BASS botton) and ⏮ botton together, press the POWER button), and then turn off power.

1. Preparation for adjustment

Test disc

	Type	Test disc	Part No.
1	High reflection disc	TGYS1 (SONY)	RRCDT0101AFZZ
2	Low reflection disc	Recording minidisc	UDSKM0001AFZZ
3	————————	Head Adjusting transparent	RRCDT0103AFZZ

Extension Cable (See Fig. 30-4)

	Type	Part No.
1	Extension PWB for servicing	RUNTK0457AFZZ
2	Extension Connector (2 Pin)	QCNWK0059AFZZ
3	Extension Connector (6 Pin)	QCNWK0107AFZZ
4	Extension Cable (5 Pin)	QCNWK0109AFZZ
3	Extension Cable (28 Pin)	QCNWK0108AFZZ

2. Test mode

Test mode setting method

1. Holding down the ⏭+ button and MD▶❚❚ (PLAY/PAUSE) button, press the POWER button. (State Ⓐ is changed to state Ⓑ.)
2. Insert the playback disc 1 (high reflection disc) or recording disc 2 (low reflection disc). (State Ⓒ is set.) Thus, the test mode state is set.

Ⓐ tsm ○○○○e○○ : TEST MODE
TEST STOP state

↓

Ⓑ EJECT
TEST

↓

Ⓒ AUT YOBI
TEST

○○ represents version of MD microcomputer.
(When the MD■(STOP) button is ressed in the Ⓒ state, the indication Ⓐ is restored. To restore Ⓒ again, press the CD▶❚❚ (PLAY/ PAUSE) button.)

Entering the specific mode

Whenever the CD▶❚❚ (PLAY/PAUSE) button is pressed, the mode is changed.

AUTO pre-adjustment → AUTO adjustment → RESULT Pre-adjustment →

← EEPROM setting ← MANUAL adjustment ← MANUAL pre-adjustment ← RESULT MANUAL pre-adjustment ←

• Canceling the test mode

When the POWER button is pressed, the test mode is canceled, and the POWER OFF state is set.

• Test Mode

1. AUTO pre-adjustment mode	• Automatic pre-adjustment is performed. (After adjustment the grating adjustment mode is set.) • The adjustment value is output with the aid of system controller interface.
2. AUTO adjustment mode	• Automatic adjustment is performed. • The adjustment value is output with the aid of system controller interface. • Continuous playback is performed. (Error rate indication, jump test)
3. RESULT sub-mode	• The measurement value, set value and calculated value are indicated. • The set value is changed manually (in servo OFF state).
4. RESULT mode (final adjustment)	• The set value (after calculation) is indicated. • The set value is changed manually (in servo OFF state).
5. MANUAL pre-adjustment mode	• RF side manual adjustment is performed. • Focus and tracking signal ATT manual adjustment is performed. • Focus and tracking signal offset setting is performed.
6. MANUAL adjustment mode	• Focus and tracking signal ATT manual adjustment is performed.
7. EEPROM setting mode	• Various coefficients of digital servo are changed manually. • Each servo is set to ON individually. • Temperature detection terminal voltage is measured, and the reference value is determined.
8. TEST-PLAY mode	• Continuous playback from the specified address is performed. • C1 error rate measurement, ADIP error rate measurement.
9. TEST-REC mode	• Continuous recording from the specified address is performed. • Change of record laser output (servo gain is also changed according to laser output)
10. INNER mode	• The position where the INNER switch is turned on is measured.
11. EJECT mode	• TEMP setting (of EEPROM setting) • CONTROL setting (of EEPROM setting) • Setting of laser power (record/playback power)

1. AUTO pre-adjustment mode (Low reflection disc only)

Step No.	Setting Method	Remarks	Display
Step 1	Testmode STOP state		[t s m○○○○ e ○○]
Step 2	Press once the CD PLAY button.	AUTO pre-adjustment menu	[_ A U T _ Y O B I _]
Step 3	Press once the MD PLAY button. End of adjustment	The slide moves to the innermost periphery, and automatic pre-adjustment is started. • During automatic adjustment ✳✳✳ changes as follows. HAo→RFg→SAg→SBg→PTG→PCH→GTG→GCH→RCG→ SEG→RFG→SAG→HAO→HEO→TCO→LAO If adjustment is OK, Step 4. If adjustment is NG, Step 5.	[✳✳✳ : _ _ _ _ _ _]
Step 4	Grating adjustment, adjustment value output Press once the MD STOP button.	 STEP 2	[_ C O M P L E T E _]
Step 5	Adjustment value output Press once the MD STOP button.	 STEP 2 AUTO pre-adjustment menu	[C a n ' t _ A D J .]

• ✳✳✳ : Adjustment name, □□□□ : Address

2. AUTO adjustment mode

Step No.	Setting Method	Remarks	Display
Step 1	Testmode STOP state		[t s m○○○ e ○○]
Step 2	Press the CD PLAY button two times.	AUTO adjustment menu	[A U T O _ A J S T _]
Step 3	Press once the MD PLAY button. End of adjustment	The slide moves to the innermost periphery, and automatic adjustment is started. • In case of high reflection disc ✳✳✳ changes as follows. PEG→HAG •In case of low reflection disc ✳✳✳ changes as follows. PEG→LAG→GCG→GEG→LAG If adjustment is OK, Step 4. If adjustment is NG, Step 7.	[✳✳✳ : _ _ _ _ _ _]
Step 4	Adjustment value output Press the MD PLAY button. Press the MD STOP button.	 STEP 5 STEP 2	[_ C O M P L E T E _]
Step 5	Continuous playback (pit section) Continuous playback (groove section)		[s□□□□c○○○○] [a□□□□c○○○○]
Step 6	Press the CD STOP button. Press the MD STOP button.	Continuous playback (groove section) STEP 2 AUTO adjustment menu	[a□□□□a○○○○]
Step 7	Adjustment value output Press the MD STOP button.	 STEP 2 AUTO adjustment menu	[C a n ' t _ A D J .]

• ✳✳✳ : Adjustment name, ○○ : Measurement value, □□□□ : Address

3. RESULT sub-mode

Step No.	Setting Method	Remarks	Display
Step 1	Testmode STOP state		[t s m○○○ e ○○]
Step 2	Press the CD PLAY button three times.	RESULT sub-menu	[_ R S T _ Y O B I _]
Step 3	Press once the MD PLAY button.	Indication of measurement value	[R F G : _ ○○ _ _●]
Step 4	Press once the CD PLAY button.	Indication of measurement value	[R C G : _ ○○ _ _●]
Step 5	Press once the CD PLAY button.	Indication of measurement value	[R T G : _ _ _ _ _ ●]
Step 6	Press once the CD PLAY button.	Indication of measurement value	[G T G : _ _ _ _ _ ●]
Step 7	Press once the CD PLAY button.	Indication of measurement value	[P C H : _ _ _ _ ●●]
Step 8	Press once the CD PLAY button.	Indication of measurement value	[G C H : _ _ _ _ ●●]
Step 9	Press once the CD PLAY button.	Indication of measurement value	[S A G : _ _ _ ●●●]
Step 10	Press once the CD PLAY button.	Indication of measurement value	[S B G : _ _ _ ●●●]
Step 11	Press once the CD PLAY button.	Indication of measurement value	[S E G : _ _ _ ●●●]
Step 12	Press once the CD PLAY button.	Indication of measurement value	[S F G : _ _ _ ●●●]
Step 13	Press once the CD PLAY button.	Indication of measurement value	[H A O : ○○○ _ _ _]
Step 14	Press once the CD PLAY button.	Indication of measurement value	[H B O : ○○○ _ _ _]
Step 15	Press once the CD PLAY button.	Indication of measurement value	[H E O : ○○○ _ _ _]
Step 16	Press once the CD PLAY button.	Indication of measurement value	[H F O : ○○○ _ _ _]
Step 17	Press once the CD PLAY button.	Indication of measurement value	[L A O : ○○○ _ _ _]
Step 18	Press once the CD PLAY button.	Indication of measurement value	[L B O : ○○○ _ _ _]
Step 19	Press once the CD PLAY button.	Indication of measurement value	[L E O : ○○○ _ _ _]
Step 20	Press once the CD PLAY button.	Indication of measurement value	[L F O : ○○○ _ _ _]
Step 21	Press once the CD PLAY button.	Indication of measurement value	[T C O : _ ○○ _ _ _]
Step 22	Press once the CD PLAY button.	Indication of adjustment error sequence No.	[Y O B : _ □□ _ _ _]
Step 23	Press once the CD PLAY button.	Indication of adjustment status	[D I F : _ □□ _ _ _]
Step 24	Press once the CD PLAY button.	Indication of pre-adjustment not completed (00)/completed (4B)	[A D J : _ □□ _ _ _]
Step 25	Press once the MD PLAY button.	RESULT sub-menu state	[_ R S T _ Y O B I _]

• ○○ : Measurement value, ●● : Adjustment value, □□ : Other various informations
• ressing the REC button causes reversing.
• If the VOL UP button is pressed while the set value is indicated, the set value increases, and the new set value is stored in RAM.
• If the VOL DOWN button is pressed while the set value is indicated, the set value reduces, and the new set value is stored in RAM.
• If the VOL UP/VOL DOWN button is held down, the set value changes continuously with 100 ms cycle.
• The digit of increase/decrease by the VOL UP/VOL DOWN button can be shifted with the aid of CD STOP button.

3. RESULT mode (final adjustment)

Step No.	Setting Method	Remarks	Display
Step 1	Testmode STOP state		[t s m○○○○ e ○○]
Step 2	Press the CD PLAY button four times.	RESULT menu	[_ R E S U L T _ _ _]
Step 3	Press once the MD PLAY button.	Indication of set value	[H A G : _ _ _ ●●●]
Step 4	Press once the CD PLAY button.	Indication of set value	[H B G : _ _ _ ●●●]
Step 5	Press once the CD PLAY button.	Indication of set value	[L A G : _ _ _ ●●●]
Step 6	Press once the CD PLAY button.	Indication of set value	[L B G : _ _ _ ●●●]
Step 7	Press once the CD PLAY button.	Indication of set value	[P E G : _ _ _ ●●●]
Step 8	Press once the CD PLAY button.	Indication of set value	[P F G : _ _ _ ●●●]
Step 9	Press once the CD PLAY button.	Indication of set value	[G E G : _ _ _ ●●●]
Step 10	Press once the CD PLAY button.	Indication of set value	[G F G : _ _ _ ●●●]
Step 11	Press once the CD PLAY button.	Indication of set value	[G C G : _ _ _ _ ●●]
Step 12	Press once the MD STOP button.	RESULT menu state	[_ R E S U L T _ _ _]

• ●● : Measurement value
• ressing the REC button causes reversing.
• If the VOL UP button is pressed while the set value is indicated, the set value increases, and the new set value is stored in RAM.
• If the VOL DOWN button is pressed while the set value is indicated, the set value reduces, and the new set value is stored in RAM.
• If the VOL UP/VOL DOWN button is held down, the set value changes continuously with 100 ms cycle.
• The digit of increase/decrease by the VOL UP/VOL DOWN button can be shifted with the aid of CD STOP button.

5. MANUAL auxiliary adjustment mode (only low reflection disc)

Step No.	Setting Method	Remarks	Display
Step 1	Testmode STOP state		[t s m○○○○ e ○○]
Step 2	Press the CD PLAY button five times.	MANUAL auxiliary adjustment mode	[_ M N U _ Y O B I _]
Step 3	Press once the MD PLAY button.	Initial setting → Temperature measuring mode	[T M P : _ △△ _ _ _]
Step 4	Press once the CD PLAY button.	Offset "0" setting → A signal offset tentative measurement	[H A o : △△△ _ _ _]
Step 5	Press once the CD PLAY button.	B signal offset tentative measurement	[H B o : △△△ _ _ _]
Step 6	Press once the CD PLAY button.	E signal offset tentative measurement	[H E o : △△△ _ _ _]
Step 7	Press once the CD PLAY button.	F signal offset tentative measurement	[H F o : △△△ _ _ _]
Step 8	Press once the CD PLAY button.	Offset tentative measurement → Laser ON	[L O N : _ _ _ _ _ _]
Step 9	Press once the CD PLAY button.	Innermost periphery move → RF side FG rough adjustment	[R F g : △△△ _ _ ●]
Step 10	Press once the CD PLAY button.	Focus ATT (A signal) tentative setting	[S A g : △△△○○○]
Step 11	Press once the CD PLAY button.	Focus ATT (B signal) tentative setting	[S B g : △△△○○○]
Step 12	Press once the CD PLAY button.	RF side pit section TG adjustment	[P T G : △△△ _ _ ●]
Step 13	Press once the CD PLAY button.	Pit section COUT level setting	[P C H : △△△ _ ○○]
Step 14	Press once the CD PLAY button.	Outer periphery move → RF side groove TG adjustment	[G T G : △△△ _ _ ●]
Step 15	Press once the CD PLAY button.	Groove section COUT level setting	[G C H : △△△ _ ○○]
Step 16	Press once the CD PLAY button.	RF side TCRS adjustment	[R C G : △△△ _ _ ●]
Step 17	Press once the CD PLAY button.	Tracking ATT (E signal) setting	[S E G : △△△○○○]
Step 18	Press once the CD PLAY button.	Tracking ATT (F signal) setting	[S F G : △△△○○○]
Step 19	Press once the CD PLAY button.	Indication of tracking EFMIO measurement	[g M I : △△△ _ _ _]
Step 20	Press once the CD PLAY button.	RF side pit section FG adjustment	[R F G : △△△ _ _ ●]
Step 21	Press once the CD PLAY button.	Focus ATT (A signal) setting	[S A G : △△△○○○]
Step 22	Press once the CD PLAY button.	Focus ATT (B signal) setting	[S B G : △△△○○○]
Step 23	Press once the CD PLAY button.	Offset "0" setting → A signal offset measurement	[H A O : △△△ _ _ _]
Step 24	Press once the CD PLAY button.	B signal offset measurement	[H B O : △△△ _ _ _]
Step 25	Press once the CD PLAY button.	E signal offset measurement	[H E O : △△△ _ _ _]
Step 26	Press once the CD PLAY button.	F signal offset measurement	[H F O : △△△ _ _ _]
Step 27	Press once the CD PLAY button.	TCRS signal offset measurement	[T C O : △△△ _ _ _]
Step 28	Press once the CD PLAY button.	A signal offset measurement	[L A O : △△△ _ _ _]
Step 29	Press once the CD PLAY button.	B signal offset measurement	[L B O : △△△ _ _ _]
Step 30	Press once the CD PLAY button.	E signal offset measurement	[L E O : △△△ _ _ _]
Step 31	Press once the CD PLAY button.	F signal offset measurement	[L F O : △△△ _ _ _]

• △△△ : Measurement value, ● : Set value, ○○○ : Account value

• If the VOL UP/VOL DOWN button is pressed during setting indication, the setting increases/decreases, and the new setting is stored in RAM.
• If the VOL UP/VOL DOWN button is held down, the setting changes continuously with 100 ms cycle.
• If the REC button is pressed, the setting returns step by step excepting the following case.
A signal offset (HAO) → Offset tentative setting → RF side FG adjustment (RFG)
RF side TCRS adjustment (RCG) → RF side groove TG adjustment (GTG)
RF side groove TG adjustment (GTG) → Innermost periphery move → RF side pit section adjustment (PTG)
RF side pit TG adjustment (PTG) → RF side FG rough adjustment (RFg) → Laser lighting (LON)
Laser lighting (LON) → Offset "0" setting → A signal offset tentative measurement (HAo)
If the measurement value is within the OK range, " ✳ " appears on the 8th character.

6. MANUAL adjustment mode

High reflection disc

Step No.	Setting Method	Remarks	Display
Step 1	Testmode STOP state		[t s m○○○ e ○○]
Step 2	Press the CD PLAY button six times.	MANUAL adjustment menu	[_ M N U _ A J S T _]
Step 3	Press once the MD PLAY button.	Initial setting → Temperature measuring mode	[T M P : _ △△ _ _ _]
Step 4	Press once the CD PLAY button.	Laser ON	[L O N : _ _ _ _ _ _]
Step 5	Press once the CD PLAY button.	Innermost periphery move → Tracking ATT (E signal) setting	[P E G : △△△○○○]
Step 6	Press once the CD PLAY button.	Tracking ATT (F signal) setting	[P F G : △△△○○○]
Step 7	Press once the CD PLAY button.	Indication of tracking EFMIO measurement	[P M I : △△△ _ _ _]
Step 8	Press once the CD PLAY button.	Focus ATT (A signal) setting	[H A G : △△△○○○]
Step 9	Press once the CD PLAY button.	Focus ATT (B signal) setting	[H B G : △△△○○○]

• If the MD STOP button is pressed while the MANUAL adjustment menu is displayed, the state is changed to the TEST mode STOP state.
• If the REC button is pressed, the setting returns step.

Low reflection disc

Step No.	Setting Method	Remarks	Display
Step 1	Testmode STOP state		[t s m○○○ e ○○]
Step 2	Press the CD PLAY button six times.	MANUAL adjustment menu	[_ M N U _ A J S T _]
Step 3	Press once the MD PLAY button.	Initial setting → Temperature measuring mode	[T M P : _ △△ _ _ _]
Step 4	Press once the CD PLAY button.	Laser ON	[L O N : _ _ _ _ _ _]
Step 5	Press once the CD PLAY button.	Innermost periphery move → Tracking ATT (E signal) setting	[P E G : △△△○○○]
Step 6	Press once the CD PLAY button.	Tracking ATT (F signal) setting	[P F G : △△△○○○]
Step 7	Press once the CD PLAY button.	Indication of tracking EFMIO measurement (pit section)	[P M I : △△△ _ _ _]
Step 8	Press once the CD PLAY button.	Focus ATT (A signal) setting	[L A g : △△△○○○]
Step 9	Press once the CD PLAY button.	Focus ATT (B signal) setting	[L B g : △△△○○○]
Step 10	Press once the CD PLAY button.	Outside periphery move → Track closs setting	[G C G : △△△○○○]
Step 11	Press once the CD PLAY button.	Tracking ATT (E signal) setting	[G E G : △△△○○○]
Step 12	Press once the CD PLAY button.	Tracking ATT (F signal) setting	[P F G : △△△○○○]
Step 13	Press once the CD PLAY button.	Indication of tracking EFMIO measurement (groove section)	[G M I : △△△ _ _ _]
Step 14	Press once the CD PLAY button.	Focus ATT (A signal) setting	[L A G : △△△○○○]
Step 15	Press once the CD PLAY button.	Focus ATT (B signal) setting	[L B G : △△△○○○]

• If the MD STOP button is pressed while the MANUAL adjustment menu is displayed, the state is changed to the TEST mode STOP state.
• If the REC button is pressed, the setting returns step by step excepting the following case.
Track closs ATT setting (GTG) → Innermost periphery move → Focus ATT (B signal) setting (LBg)

7. EEPROM setting mode

a) Focus setting

Step No.	Setting Method	Remarks	Display
Step 1	Testmode STOP state		[t s m○○○ e ○○]
Step 2	Press the CD PLAY button seventimes.	EEPROM setting menu	[E E P R O M _ S E T]
Step 3	Press once the MD PLAY button.	Focus setting menu	[_ _ F o c u s _ _ _]
Step 4	Press once the MD PLAY button.	Focus system loop filter gain constant setting	[F G _ _ _ _ _ _ ◆◆]
Step 5	Press once the CD PLAY button.	Focus system loop filter f characteristic constant 1 setting	[F F 1 _ _ _ _ _ ◆◆]
Step 6	Press once the CD PLAY button.	Focus system loop filter f characteristic constant 2 setting	[F F 2 _ _ _ _ _ ◆◆]
Step 7	Press once the CD PLAY button.	FZC oscillation histerisis level setting a	[F Z H L E V _ _ ◆◆]
Step 8	Press once the CD PLAY button.	Comparison level setting (normal) in case of FOK generation	[F O K L E V n _ ◆◆]

Step No.	Setting Method	Remarks	Display
Step 9	Press once the CD PLAY button.	Comparison level setting in case of FOK generation (when focus is "ON")	[F O K L E V f _ ◆◆]
Step 10	Press once the CD PLAY button.	LPF coefficient setting (normal) in case of FOK generation	[F O K L P F n _ ◆◆]
Step 11	Press once the CD PLAY button.	LPF coefficient setting in case of FOK generation (when focus is "ON")	[F O K L P F f _ ◆◆]
Step 12	Press once the CD PLAY button.	Waiting time setting in case of auto-focus retraction	[W A I T f _ _ _ ◆◆]

• ◆◆ : Setting volue
• Pressing the REC button causes reversing.
• If the VOL UP button is pressed while the specific setting item is indicated, the setting increases, and the new setting is set in LSI.
• If the VOL DOWN button is pressed while the specific setting item is indicated, the setting decreases, and the new setting is set in LSI.
• If the VOL UP/VOL DOWN button is held down, the setting changes continuously with 100 ms cycle.

b) Spindle setting

Step No.	Setting Method	Remarks	Display
Step 1	Testmode STOP state		[t s m○○○○ e ○○]
Step 2	Press the CD PLAY button seven times.	EEPROM setting menu	[E E P R O M _ S E T]
Step 3	Press once the MD PLAY button.	Focus setting menu	[_ _ F o c u s _ _ _]
Step 4	Press once the CD PLAY button.	Spindle setting menu	[_ S p i n d l e _ _]
Step 5	Press once the MD PLAY button.	Spindle system loop filter gain constant setting (Until tracking servo ON)	[S P G _ _ _ _ _ ◆◆]
Step 6	Press once the CD PLAY button.	Spindle system loop filter gain constant setting (After tracking servo ON, inner periphery)	[S P G _ i n _ _ ◆◆]
Step 7	Press once the CD PLAY button.	Spindle system loop filter gain constant setting (After tracking servo ON, center)	[S P G _ m i d _ ◆◆]
Step 8	Press once the CD PLAY button.	Spindle system loop filter gain constant setting (After tracking servo ON, outside periphery)	[S P G _ o u t _ ◆◆]
Step 9	Press once the CD PLAY button.	Spindle system loop filter f characteristic constant 1 setting	[S P 1 _ _ _ _ _ ◆◆]
Step 10	Press once the CD PLAY button.	Spindle system loop filter f characteristic constant 2 setting	[S P 2 _ _ _ _ _ ◆◆]
Step 11	Press once the CD PLAY button.	Spindle system loop filter f characteristic constant 3 setting	[S P 3 _ _ _ _ _ ◆◆]
Step 12	Press once the CD PLAY button.	Spindle system loop filter f characteristic constant 4 setting	[S P 4 _ _ _ _ _ ◆◆]
Step 13	Press once the CD PLAY button.	Spindle system loop filter f characteristic constant 5 setting	[S P 5 _ _ _ _ _ ◆◆]
Step 14	Press once the CD PLAY button.	Spindle drive output limitter setting	[S P D L I M _ _ ◆◆]

• ◆◆ : Setting volue
• Pressing the REC button causes reversing.
• If the VOL UP button is pressed while the specific setting item is indicated, the setting increases, and the new setting is set in LSI.
• If the VOL DOWN button is pressed while the specific setting item is indicated, the setting decreases, and the new setting is set in LSI.
• If the VOL UP/VOL DOWN button is held down, the setting changes continuously with 100 ms cycle.

c) Tracking setting

Step No.	Setting Method	Remarks	Display
Step 1	Testmode STOP state		[t s m○○○○ e ○○]
Step 2	Press the CD PLAY button seven times.	EEPROM setting menu	[E E P R O M _ S E T]
Step 3	Press once the MD PLAY button.	Focus setting menu	[_ _ F o c u s _ _ _]
Step 4	Press the CD PLAY button two times.	Tracking setting menu	[_ T r a c k i n g _]
Step 5	Press once the MD PLAY button.	Tracking system loop filter gain constant setting	[T G _ _ _ _ _ _ ◆◆]
Step 6	Press once the CD PLAY button.	Spindle system loop filter f characteristic constant 1 setting	[T F 1 _ _ _ _ _ ◆◆]
Step 7	Press once the CD PLAY button.	Spindle system loop filter f characteristic constant 2 setting	[T F 2 _ _ _ _ _ ◆◆]
Step 8	Press once the CD PLAY button.	Setting of tracking system servo mode 4	[S V C N T 4 _ _ ◆◆]
Step 9	Press once the CD PLAY button.	Tracking deceleration pulse level setting (for one line jump)	[T R B L V 0 _ _ ◆◆]
Step 10	Press once the CD PLAY button.	Tracking deceleration pulse level setting (for 10 line jump)	[T R B L V t _ _ ◆◆]
Step 11	Press once the CD PLAY button.	Tracking kick pulse level setting (for one line jump)	[T R K L V 0 _ _ ◆◆]
Step 12	Press once the CD PLAY button.	Tracking kick pulse level setting (for 10 line jump)	[T R K L V t _ _ ◆◆]
Step 13	Press once the CD PLAY button.	Tracking drive pulse width setting (for one line jump)	[T D P W o _ _ _ ◆◆]
Step 14	Press once the CD PLAY button.	Tracking drive pulse width setting (for 10 line jump)	[T D P W t _ _ ◆◆]
Step 15	Press once the CD PLAY button.	Tracking slip stop time setting (for one line jump)	[S L C T 0 _ _ _ ◆◆]
Step 16	Press once the CD PLAY button.	Tracking slip stop time setting (for 10 line jump)	[S L C T t _ _ _ ◆◆]
Step 17	Press once the CD PLAY button.	Tracking slip stop time setting (move)	[S L C T m _ _ ◆◆]

Step No.	Setting Method	Remarks	Display
Step 18	Press once the CD PLAY button.	TCRS comparison level 1 for high reflection	[T C R S C 1 P _ ◆◆]
Step 19	Press once the CD PLAY button.	Comparison level in case of COUT generation (playback)	[C O T L V p _ _ ◆◆]
Step 20	Press once the CD PLAY button.	Comparison level in case of COUT generation (pecord)	[C O T L V r _ _ ◆◆]
Step 21	Press once the CD PLAY button.	Auto-move waiting time setting	[W A I T m_ _ _ ◆◆]

• ◆◆ : Setting volue
• Pressing the REC button causes reversing.
• If the VOL UP button is pressed while the specific setting item is indicated, the setting increases, and the new setting is set in LSI.
• If the VOL DOWN button is pressed while the specific setting item is indicated, the setting decreases, and the new setting is set in LSI.
• If the VOL UP/VOL DOWN button is held down, the setting changes continuously with 100 ms cycle.

d) Slide setting

Step No.	Setting Method	Remarks	Display
Step 1	Testmode STOP state		[t s m◯◯◯◯ e ◯◯]
Step 2	Press the CD PLAY button seven times.	EEPROM setting menu	[E E P R O M _ S E T]
Step 3	Press once the MD PLAY button.	Focus setting menu	[_ _ F o c u s _ _ _]
Step 4	Press the CD PLAY button three times.	Slide setting menu	[_ _ _ S l e d _ _ _]
Step 5	Press once the MD PLAY button.	Slide system loop filter gain constant setting	[S L G _ _ _ _ _ ◆◆]
Step 6	Press once the CD PLAY button.	Slide system loop filter f characteristic constant 2 setting	[S L 2 _ _ _ _ _ ◆◆]
Step 7	Press once the CD PLAY button.	Slide output limitter setting	[S L D L I M _ _ ◆◆]
Step 8	Press once the CD PLAY button.	Slide servo output dead zone level setting	[S L D L E V _ _ ◆◆]
Step 9	Press once the CD PLAY button.	Slide kick pulse level setting (forced move)	[S L K L V k _ _ ◆◆]
Step 10	Press once the CD PLAY button.	Slide kick pulse level setting (for 10 lines jump auxiliary use)	[S L K L V t _ _ ◆◆]
Step 11	Press once the CD PLAY button.	Slide kick pulse level setting (move)	[S L K L V m _ _ ◆◆]

• ◆◆ : Setting volue
• Pressing the REC button causes reversing.
• If the VOL UP button is pressed while the specific setting item is indicated, the setting increases, and the new setting is set in LSI.
• If the VOL DOWN button is pressed while the specific setting item is indicated, the setting decreases, and the new setting is set in LSI.
• If the VOL UP/VOL DOWN button is held down, the setting changes continuously with 100 ms cycle.

Temperature measurement value correction table

Ambient temperature	correction
12.2 °C ~ 15.8 °C	-0 3 H
15.9 °C ~ 19.6 °C	-0 2 H
19.7 °C ~ 23.2 °C	-0 1 H
23.2 °C ~ 26.8 °C	± 0 H
26.9 °C ~ 30.7 °C	+0 1 H
30.8 °C ~ 34.3 °C	+0 2 H
34.4 °C ~ 37.9 °C	+0 3 H

EEPROM record value = Microcomputer measurement value + Correction

* EEPROM record value
  Value to be measured by the microcomputer at +25°C
* Microcomputer measurement value
  Value to be measured by the microcomputer at specific temperature
* Correction value
  Correction value for conversion to measurement value at +25°C (see the table shown left)

• Temperature code check

The temperature code is read after automatic adjustment. If it is within the range shown below, the adjustment is OK.

Ambient temperature	temperature code
19.6 °C ~ 30.7 °C	0 6
8.7 °C ~ 19.6 °C	0 7

e) TEMP setting

Step No.	Setting Method	Remarks	Display
Step 1	Testmode STOP state		[t s m○○○○ e ○○]
Step 2	Press the CD PLAY button seven times.	EEPROM setting menu	[E E P R O M _ S E T]
Step 3	Press once the MD PLAY button.	Focus setting menu	[_ _ F o c u s _ _ _]
Step 4	Press the CD PLAY button four times.	TEMP setting menu	[_ _ _ T e m p _ _ _]
Step 5	Press once the MD PLAY button.	TEMP reference value setting	[T E M P _○○_ ◆◆]

Step No.	Setting Method	Remarks	Display
Step 1	EJECT state (or mechanism-less state)		[_ _ E J E C T _ _ _]
Step 2	Press the CD►MD EDIT button.	TEMP reference value setting	[T E M P _○○_ ◆◆]

• ◆◆ : Setting volue, ○○ **:** Measurement value
• If the VOL UP button is pressed while the specific setting item is indicated, the setting increases, and the new setting is set in LSI.
• If the VOL DOWN button is pressed while the specific setting item is indicated, the setting decreases, and the new setting is set in LSI.
• If the VOL UP/VOL DOWN button is held down, the setting changes continuously with 100 ms cycle.

f) CONTROL setting

Step No.	Setting Method	Remarks	Display
Step 1	Testmode STOP state		[t s m○○○○ e ○○]
Step 2	Press the CD PLAY button seven times.	EEPROM setting menu	[E E P R O M _ S E T]
Step 3	Press once the MD PLAY button.	Focus setting menu	[_ _ F o c u s _ _ _]
Step 4	Press the CD PLAY button five times.	CONTROL setting menu	[_ C o n t r o l _ _]
Step 5	Press once the MD PLAY button.	CONTROL 1 setting	[C O N T R L 1_ ◆◆]
Step 6	Press once the CD PLAY button.	CONTROL 2 setting	[C O N T R L 2_ ◆◆]
Step 7	Press once the CD PLAY button.	Setting of spin kick level in MOVE state	[S P K L E V m_ ◆◆]
Step 8	Press once the CD PLAY button.	Setting of readjustment interval time (minutes)	[A D J T T M_ _ ◆◆]
Step 9	Press once the CD PLAY button.	Setting of equalizer coefficients A and D (high reflection)	[H D E Q A D_ _ ◆◆]
Step 10	Press once the CD PLAY button.	Setting of equalizer coefficients A and D (low reflection pit)	[L D E Q A D_ _ ◆◆]
Step 11	Press once the CD PLAY button.	Setting of equalizer coefficients A and D (low reflection groove)	[G D E Q A D_ _ ◆◆]
Step 12	Press once the CD PLAY button.	Setting of equalizer coefficients B and C (high reflection)	[H D E Q B C_ _ ◆◆]
Step 13	Press once the CD PLAY button.	Setting of equalizer coefficients B and C (low reflection pit)	[L D E Q B C_ _ ◆◆]
Step 14	Press once the CD PLAY button.	Setting of equalizer coefficients B and C (low reflection groove)	[G D E Q B C_ _ ◆◆]
Step 15	Press once the CD PLAY button.	Setting of autolevel slicer gain (high reflection)	[H A L S G_ _ _ ◆◆]
Step 16	Press once the CD PLAY button.	Setting of autolevel slicer gain (low reflection pit)	[L A L S G_ _ _ ◆◆]
Step 17	Press once the CD PLAY button.	Setting of autolevel slicer gain (low reflection groove)	[G A L S G _ _ ◆◆]
Step 18	Press once the CD PLAY button.	Setting of autolevel slicer offset (high reflection)	[H A L S O F_ _ ◆◆]
Step 19	Press once the CD PLAY button.	Setting of autolevel slicer offset (low reflection pit)	[L A L S O F S _ _ ◆◆]
Step 20	Press once the CD PLAY button.	Setting of autolevel slicer offset (low reflection groove)	[G A L S O F S _ _ ◆◆]

Step No.	Setting Method	Remarks	Display
Step 1	EJECT state (or mechanism-less state)		[_ _ E J E C T _ _ _]
Step 2	Press the TRACK EDIT button.	CONTROL 1 setting	[C O N T R L 1_ ◆◆]
Step 3	Press once the CD PLAY button.	CONTROL 2 setting	[C O N T R L 2_ ◆◆]

• ◆◆ : Setting volue
• If the VOL UP button is pressed while the specific setting item is indicated, the setting increases, and the new setting is set in LSI.
• If the VOL DOWN button is pressed while the specific setting item is indicated, the setting decreases, and the new setting is set in LSI.
• If the VOL UP/VOL DOWN button is held down, the setting changes continuously with 100 ms cycle.
• CONTROL 1
  Pit 7 : High frequency superposition ON/OFF in record mode (0:OFF, 1:ON)
  Pit 6~4 : Play start SD number (30 to 100 sector, 10 sector step)
  Pit 2~0 : High speed jump over-run (384 to 830 lines, 64 lines step)
• CONTROL 2
  Pit 4~0 : EEPROM version (a~)

8. TEST-PLAY mode

Step No.	Setting Method	Remarks	Display
Step 1	Testmode STOP state		[t s m○○○ e ○○]
Step 2	Press the CD►MD EDIT button.	TEST-PLAY menu	[T E S T _ P L A Y _]
Step 3	Press once the CD STOP button. Press once the MD PLAY button.	ADRES setting (Target address initial value is indicated) While searching, set the search output to "H". To start continuous play, return it to "L".	[A D R E S _ 0 0 5 0]
Step 4	Continuous playback (pit section) Continuous playback (groove section)	(Address + C1 error indication) (Address + C1 error indication)	[s □□□□ c ○○○○] [a □□□□ c ○○○○]
Step 5	Press once the CD STOP button. Continuous playback (groove section)	(Address + ADIP error indication)	[a □□□□ a ○○○○]
Step 6	Press once the MD STOP button.	TEST-PLAY menu	[T E S T _ P L A Y _]

- If the MD STOP button is pressed while the TEST-PLAY menu is displayed, TEST mode STOP state is set.
- If the MD PLAY button is pressed while the TEST-PLAY menu is displayed, continuous playback is started from the current pickup position.
- Whenever the CD►MD EDIT button is pressed in the address setting mode, the address changes as follows.
  0 0 5 0 → 0 3 C 0 → 0 7 0 0 → 0 8 A 0 → 0 0 5 0 → ……
- Whenever the CD STOP button is pressed in the address setting mode, the digit which is changed with - I◄◄ / ►►I + changes as follows.
  0 0 5 0 → 0 0 5 0 → 0 0 5 0 → 0 0 5 0 → ……
- The digit of address which has been specified with - I◄◄ / ►►I + and CD STOP button in the address setting mode is set to +01H/-01H.(0~F)
  * If the - I◄◄ / ►►I + button is held down, the setting changes continuously with 100 ms cycle.
- If the TRACK EDIT button is pressed in the continuous playback mode, the number of jump lines changes as follows.
  1 line → 10 line → 400 line → 1 line → ……
  * After the number of jump lines is indicated for one second, the address indication is restored. [▲▲▲T R _ J U M P]
- If the - I◄◄ / ►►I + button is pressed in the continuous playback mode, the specified number of lines is jumped in the FWD/REV direction.
  * If the - I◄◄ / ►►I + button is held down, the setting changes with 100 ms cycle.
- Whenever the CD STOP button is pressed in the continuous playback mode, the indication changes as follows.
  * Pit section Continuous playback (SUBQ address indication + C1 error indication) remains. [s □□□□ c ○○○○]
  * Groove section Continuous playback (ADIP address indication + C1 error indication) remains. [a □□□□ c ○○○○]
  ↓
  Continuous playback (ADIP address indication + ADIP error indication) remains. [a □□□□ a ○○○○]
  ↓
  Continuous playback (ADIP address indication + C1 error indication) remains. [a □□□□ c ○○○○]
  ↓
  ⋮

- □□□□ : Adress, ○○○○ : Error late, ▲▲▲ : Jump lines

9. TEST-REC mode

Step No.	Setting Method	Remarks	Display
Step 1	Testmode STOP state		[t s m○○○○ e ○○]
Step 2	Press the CD►MD EDIT button.	TEST-REC menu	[T E S T _ R E C _ _]
Step 3	Press once CD STOP button.	ADRES setting (indication of address initial value)	[a 0 0 5 0 _ p w ▽▽]
Step 4	Press once the MD PLAY button.	While searching, set the search output to "H". To start continuous play, return it to "L". Continuous recording	[a □□□□ p w ▽▽]
Step 5	Press once the MD STOP button.	TEST-REC menu	[T E S T _ R E C _ _]

- If the MD STOP button is pressed while the TEST-PLAY menu is displayed, TEST mode STOP state is set.
- If the MD PLAY button is pressed while the TEST-REC menu is displayed, continuous record is started from the current pickup position.
- Whenever the CD►MD EDIT button is pressed in the address setting mode, the address changes as follows.
  0 0 5 0 → 0 3 C 0 → 0 7 0 0 → 0 8 A 0 → 0 0 5 0 → ……
- Whenever the CD STOP button is pressed in the address setting mode, the digit which is changed with - I◄◄ / ►►I + changes as follows.
  0 0 5 0 → 0 0 5 0 → 0 0 5 0 → 0 0 5 0 → ……
- The digit of address which has been specified with - I◄◄ / ►►I + and CD STOP button in the address setting mode is set to +01H/-01H.(0~F)
  * If the - I◄◄ / ►►I + button is held down, the setting changes continuously with 100 ms cycle.
- If the VOL UP/VOL DOWN button is pressed in TEST-REC mode and continuous record mode, the laser record power changes.
  (Servo gain changes also according to the record power.)
- □□□□ : Adress, ▽▽ : Laser power cord

10. INNER mode

Step No.	Setting Method	Remarks	Display
Step 1	Testmode STOP state		[t s m○○○○ e ○○]
Step 2	Press the TRACK EDIT button.	INNER menu	[_ _ I N N E R _ _]
Step 3	Press once the MD PLAY button.	INNER switch position measurement (SUBQ address and C1 error are also indicated.)	[s □□□□ c ○○○○]
Step 4	Press once the MD STOP button.	INNER menu	[_ _ I N N E R _ _]

• □□□□ : Adress
• Press the MD STOP button while the INNER menu is displayed, to shift to the TEST mode STOP state.

11. EJECT mode

Step No.	Setting Method	Remarks	Display
Step 1	Testmode EJECT state		[_ _ E J E C T _ _ _]
Step 2	Press oncethe CD STOP button.	Max. power output state	[x p w _ _ _ _ _ _ _]
Step 3	Press once the CD STOP button.	Record power output state	[r p w _ _ _ _ _ _ _]
Step 4	Press once the CD STOP button.	Playback power output state	[p p w _ _ _ _ _ _ _]
Step 5	Press the CD►MD EDIT button.	TEMP setting of EEPROM setting (Refer to TEMP setting of EEPROM)	
Step 6	Press the TRACK EDIT button.	CONTROL setting of EEPROM setting (Refer to CONTROL setting of EEPROM)	

● Lead-in switch position measurement mode

Note: Adjust the lead-in switch position to 5FF85 to FFD2.

1. Loosen the screw (A) x 3 pcs. which fix the mechanism switch PWB.
2. Retighten the screw, pressing the mechanism switch PWB in the arrow direction, and then measure the lead-in switch position again. After position adjustment fix with the three screws (A). (See Fig. 29.)

Note: After tightening the two screws on the PWB apply Screw Lock.

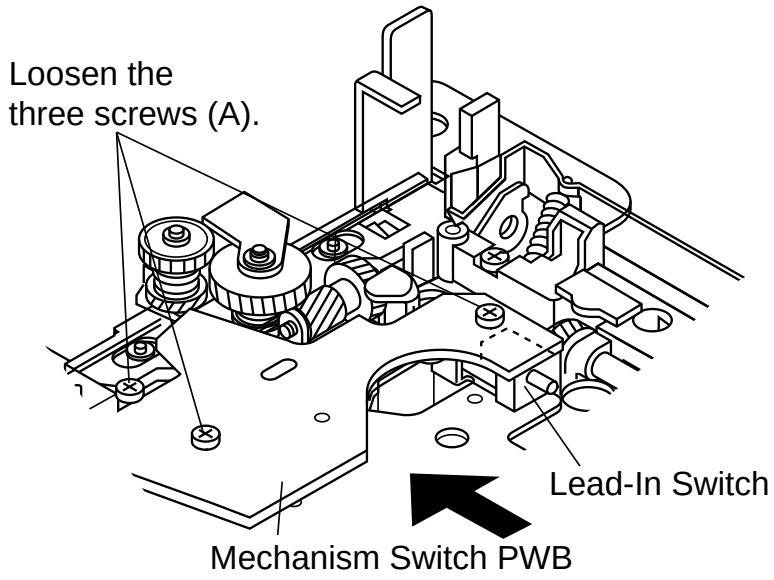


Figure 29

● Forced rotation of loading motor

While the display indication is test mode STOP state or EJECT state, the loading motor can be forcibly rotated by press theVOL UP/DOWN button.

● Mechanism Adjustment

1. Optical pickup grating inspecting method

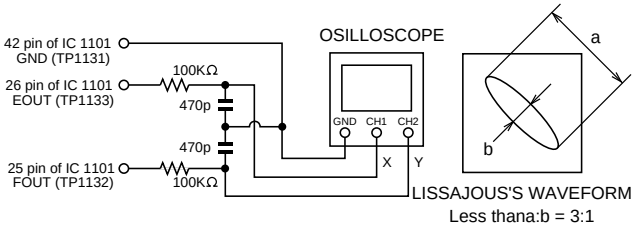


Figure 30-1 Optical Pickup Grating Deviation Measuring Method

After the automatic adjustment is performed in the AUTO mode (test mode) with the aid of high refection MD disc ("COMPLATE" is displayed), the Lissajous's waveform (x-y) is adjusted.

1. Slightly loosen the 3 screws of spindle moto, and maken an adjustment, observing the Lissajous's waveform.
2. After adjustment tighten the screw in arder of ① , ② , ③ .

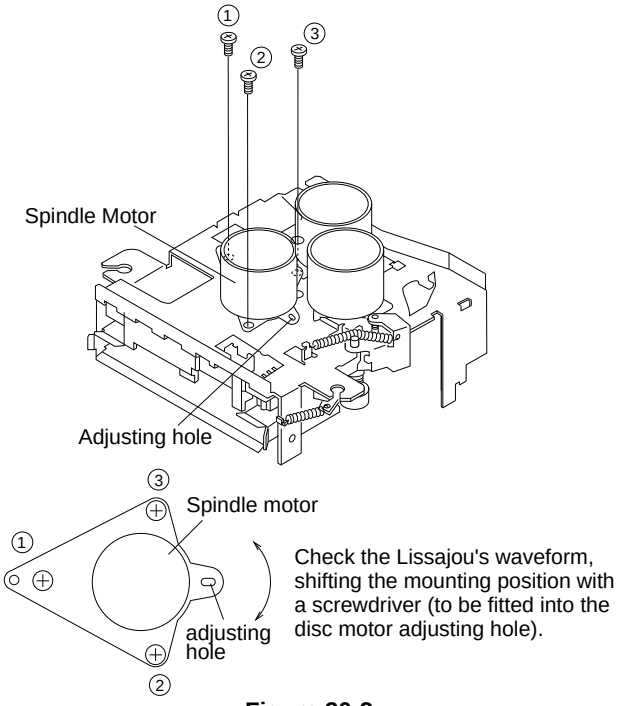


Figure 30-2

2. Jitter adjustment and checking method

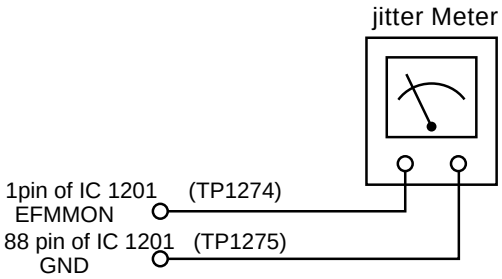


Figure 30-3 Jitter connection diagram

After performing automatic adjustment in AUTO mode of TEST mode using the low reflection MD disc, check this jitter in pit continuous playback and groove continuous playback mode.

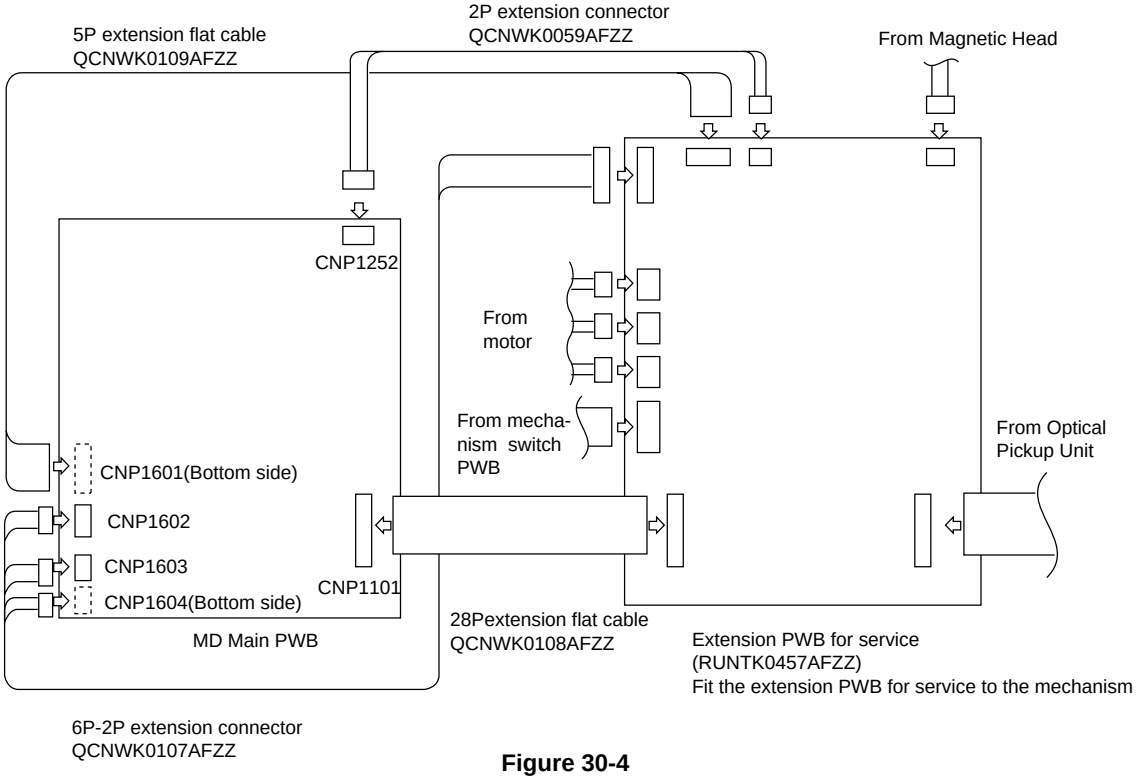


Figure 30-4

EXPLANATION OF ERROR DISPLAY

Error display	Errors	Corrective action
Can't REC	• Defect occurred successively 10 times during REC-PLAY. • As a result of occurrence of defect during REC-PLAY the recordable cluster became zero. • Adress is unreadable. REC state connot be set for 20 seconds although retry is repeated.	• Check that the disc is free from flaw, dust and fingerprint. Check whether there is any black spot. Check for disc disalignment and run-out.
Can't COPY	• The following judgement is made according to the channel status of digital signal which was input from D-IN during REC-PAUSE or REC-PLAY. (1) Other than audio signal (2) Other than signals of home-use appliances (3) Copy NG due to inversion of copy bit in CD.	• Check whether CD is copy-inhibited one. (An exabple: CD-R)
Din UNLOCK	• The digital signal which was input from D-IN during REC-PAUSE, REC-PLAY or CD FUNC playback caused the following. (1) PLL of digital IN was unlocked. (2) Locking occurred in condition other than FS = 44.1 kHz	• Check whether there is any abnormality in the D-IN signal line.
TOC FULL	• There were no areas to record music or character infomation.(music name, disc name, etc.) during REC-PLAY. • When an attempt to start is made, recordable area does not remain.	• Replace the disc with a recording/ playback disc in which an area to register UTOC remains.
UTOC ERR R	• ETNO > LTNO • FTNO ≠ 0 or 1 • UTOC recorded on disc could not be read.	• UTOC data is not normal. Replace the disc with other disc.
UTOC ERR A	• Start address > End address	• UTOC data is not normal. Replace the disc with other disc.
UTOC ERR L0~4	• Any data of UTOC 0 to 4 looped.	• UTOC data is not normal. Replace the disc with other disc.
NOT AUDIO	• Nonaudio data was recorded in the track mode of currently selected TNO.	• Select other TNO or replace the disc with other disc.
? DISC	• Data "MINI" of system ID which has been written in TOC with ASCII code is not correct. • The disc type written i TOC does not correcpond to pre/ mastered MD, recording MD and hybrid MD.	• The loaded disc is not applicable. Replace the disc, and check.
DISC FULL	• When an attempt to set REC-PAUSE was made, there were no recordable areas.	• Replace the disc with other recording disc in which recording area remains.
PLAYBACK MD	• An attempt to set REC-PAUSE or to start editing was made on the playback-only disc.	• The loaded disc is a Playback-only disc. Replace the disc with a recording disc.
PROTECTED	• An attempt to record or edit was made on the record/playback disc with its careless rease preventing tab being in rease preventing state. • An attempt was made t oedit the track which was write-protected by information written in UTOC.	• Return the careless erase preventing tab to its initial position, and redo. • The track on which an attempt to edit was made is a write-protected track. Redo on another track.
Can't EDIT	• Specific editing conditions were not satisfied.	• The applied operation procedure is not proper. Redo, applying the ocrrect procedure.
TEMP OVER	• Owing to occurrence of some trouble internal temperature of set (MD unit) rose excessively.	• Check by troubleshooting. • Check whether the ambient temperature is too high.
DISC ERR RD PA WR	• Read data was not correct or data could not be read correctly. • Trouble occurred during recording if music data, resulting in record failure.	• Data of TOC or UTOC is not normal or disc las flaw. Replace the disc with other disc.
TOC ERR S TOC ERR R TOC ERR T	• TOC was read but data was not correct. • TOC could not be rad.	• The TOC information recorded on disc does not conform to the MD standard. Replace the disc with other disc. • The disc has flaw. Replace the disc with other disc.
UTOC W ERR	• Trouble occurred during rewriting of UTOC, resulting in UTOC rewriting failure.	• The disc has flaw. Replace the disc with other disc.
FOCUS ERROR	• After the disc was loaded, focusing failure occurred.	• Check that the disc is free from flaw,dust, fingerprint and black spot. Check for disc disalignment and run-out.

Error display	Errors	Corrective action
BLANK MD	• UTOC was read but total TNO and the number of characters of NAME was 0?	• Perform recording to check that the disc is recordable disc.
DEFECT	• Focusing error was caused by shock during REC-PLAY.	• Check that the disc is free from flaw,dust, fingerprint and black spot. Check for disc disalignment and run-out.
TOC W ERROR	• Although UTOC can be read but UTOC cannot be rewritten.	• Check that the record head contact is normal. Check that there is no broken wire between PWB and the recording head.
MD ERROR	• Data of EEPROOM is not correct.	• Once reset, and redo. If error occurs persistently, replace EEPROM.

EXPLANATION OF MECHANISM ERROR

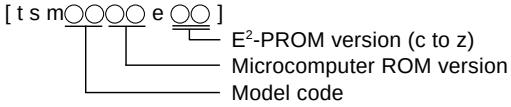
Error display	Errors
M E C H A _ E R R 1 _ * M E C H A _ E R R 2 _ * M E C H A _ E R R 3 _ *	Ejection failure Head-up failure Head-down failure

	HINF (IC1401 97 PIN)
* = E Ejection completion position	< 1.3 V
* = M Horizontal midway position	> 3.06 V
* = L Load completed position	1.853~2.48 V
* = D Head-down position	1.3~1.853 V

● E²-PROM (IC402) writing procedure

1. Procedure to replace E²-PROM and to write the initial value of microcomputer in E²-PROM

(1) Replace E²-PROM.
(2) Refer to the latest E²-PROM data list.
(3) Hold down the ►►I button and MD PLAY button, and press the POWER button to enter the test mode.
(4) Indication of version.



(5) Press the CD PLAY key 7 times.
[E E P R O M S E T]
(6) Perform the operation shown in the "E²-PROM setting mode chart", compare the indication with the E²-PROM data list, and make a setting according to the E²-PROM data list, using VOL UP botton or VOL DOWN button.
(7) Set the temperature reference value.
(Refer to "Temperature reference setting procedure".)
(8) The setting must conform to the E²-PROM data list.
(9) Turn off power supply to write in E²-PROM.

2. Temperature reference value setting procedure (to be executed at room temperature within 21 to 29°C)

(1) Test mode stop state.
[t s m○○○○ e ○○]
(2) Crrect temperature depending on ambient temperature according to the following table.

Ambient temperature	correction
12.2 °C ~ 15.8 °C	-0 3 H
15.9 °C ~ 19.6 °C	-0 2 H
19.7 °C ~ 23.2 °C	-0 1 H
23.2 °C ~ 26.8 °C	± 0 H
26.9 °C ~ 30.7 °C	+0 1 H
30.8 °C ~ 34.3 °C	+0 2 H
34.4 °C ~ 37.9 °C	+0 3 H

An example: When ambient temperature is 22°C and meadured temperature is 73H
Temperature setting = 73 H - 01 H
= 72 H
* When the measured temperature fluctuates between two values, take lower one (if temperature fluctuates between 73H and 72H, take 72H).

(3) Press the CD PLAY button 7 times.
[E E P R O M S E T]
(4) Press the MD PLAY button 1 times.
[F O C U S]
(5) Press the CD PLAY button 4 times.
[T e m p]
(6) Press once the MD PLAY button.
[T E M P ○○ ◆◆]
○○ : Measured temperature, ◆◆ : Temperature setting
(7) Set temperature to the value determined above, using the VOL UP or VOL DOWN button.
(8) Press the MD STOP button.
[T e m p]

● **E²-PROM Data List**

Focus setting

Item indication	Setting
FG ○○	97H
FF1 ○○	9EH
FF2 ○○	E0H
FZHLEV ○○	EDH
FOKLEVn ○○	08H
FOKLEVf ○○	88H
FOKLPFn ○○	00H
FOKLPFf ○○	88H
WAITf ○○	90H

Spin setting

Item indication	Setting
SPG ○○	20H
SPG—in ○○	B8H
SPG—mid ○○	76H
SPG—out ○○	50H
SP1 ○○	10H
SP2 ○○	87H
SP3 ○○	E3H
SP4 ○○	E3H
SP5 ○○	10H
SPDLIM ○○	78H

Tracking setting

Item indication	Setting
TG ○○	45H
TF1 ○○	70H
TF2 ○○	E0H
SVCNT4 ○○	01H
TRBLVo ○○	53H
TRBLVt ○○	60H
TRKLVo ○○	4CH
TRKLVt ○○	38H
TDPWo ○○	89H
TDPWt ○○	1AH
SLCTo ○○	00H
SLCTt ○○	40H
SLCTm ○○	53H
TCRSCIP ○○	16H
COTLVP ○○	14H
COTLVr ○○	28H
WAITm ○○	FFH

Slide setting

Item indication	Setting
SLG ○○	35H
SL2 ○○	27H
SLDLIM ○○	65H
SLDLEV ○○	16H
SLKLVk ○○	55H
SLKLVt ○○	3AH
SLKLVm ○○	55H

Control setting

Item indication	Setting
CONTRL1 ○○	80H
CONTRL2 ○○	01H
SPKLEVm ○○	26H
ADJTTM ○○	14H
HDEQAD ○○	90H
LDEQAD ○○	8FH
GDEQAD ○○	91H
MDEQBC ○○	90H
LDEQBC ○○	8FH
GDEQBC ○○	8AH
HALSG ○○	21H
LALSG ○○	21H
GALSG ○○	21H
HALSOFS ○○	FEH
LALSOFS ○○	00H
GALSOFS ○○	00H

● **E²-PROM Setting Mode Chart**

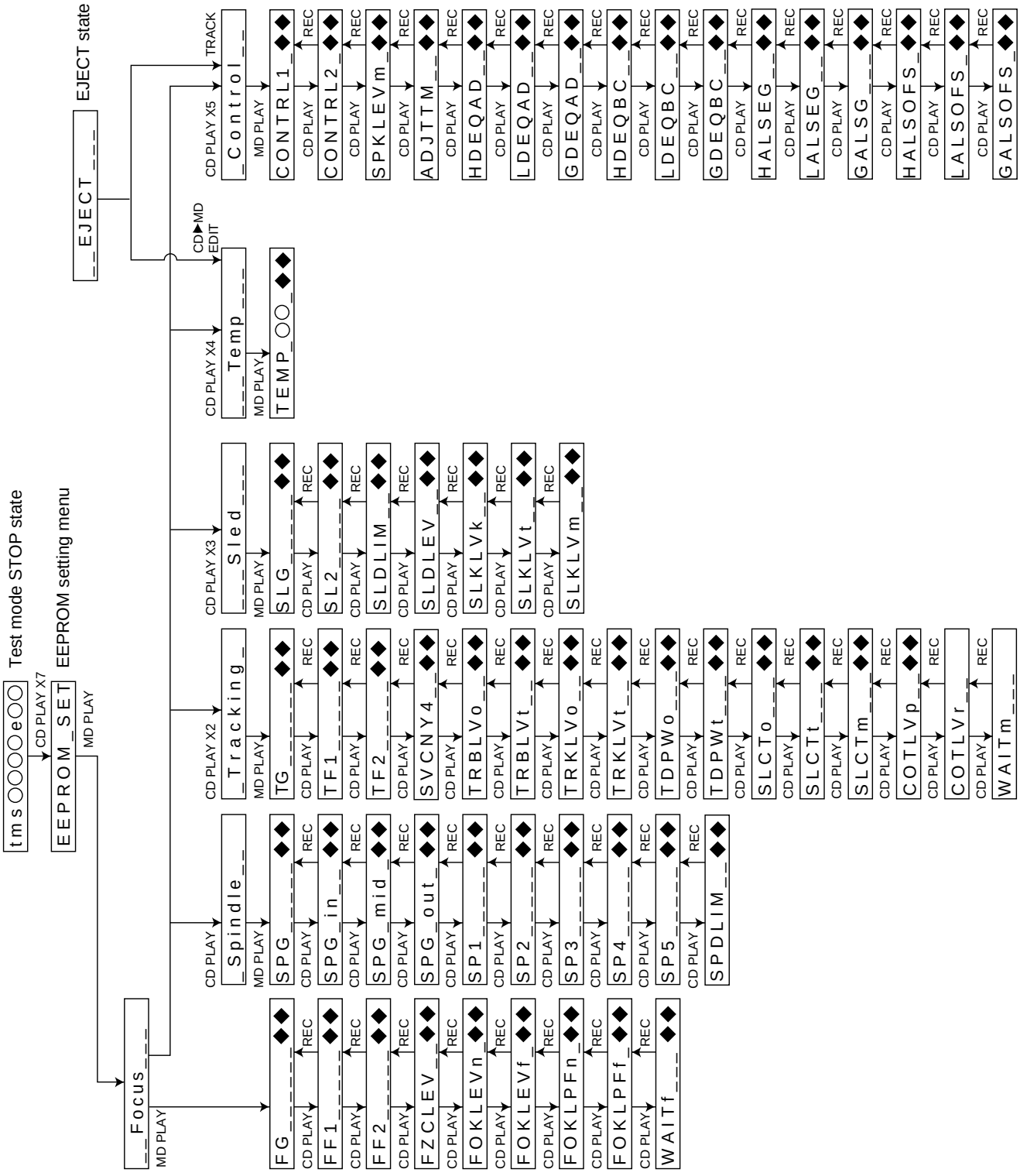


Figure 34

NOTES ON SCHEMATIC DIAGRAM

- Resistor:
  To differentiate the units of resistors, such symbol as K and M are used: the symbol K means 1000 ohm and the symbol M means 1000 kohm and the resistor without any symbol is ohm-type resistor. Besides, the one with “Fusible” is a fuse type.
- Capacitor:
  To indicate the unit of capacitor, a symbol P is used: this symbol P means micro-micro-farad and the unit of the capacitor without such a symbol is microfarad. As to electrolytic capacitor, the expression “capacitance/withstand voltage” is used.
  (CH), (TH), (RH), (UJ): Temperature compensation
  (ML): Mylar type
  (P.P.): Polypropylene type
- Schematic diagram and Wiring Side of P.W.Board for this model are subject to change for improvement without prior notice.
- The indicated voltage in each section is the one measured by Digital Multimeter between such a section and the chassis with no signal given.
  1. In the tuner section,
     ( ) indicates AM
     < > indicates FM stereo
  2. In the main section, a tape is being played back.
  3. In the deck section, a tape is being played back.
     ( ) indicates the record state.
  4. In the power section, a tape is being played back.
  5. In the CD section, the CD is stopped.
- Parts marked with “⚠” (⊏ ═ ═ ⊐) are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

REF. NO	DESCRIPTION	POSITION
SW701	OPEN/CLOSE	ON—OFF
SW702	PICKUP IN	ON—OFF
SW705	PRE-EQ	ON—OFF
SW706	X-BASS	ON—OFF
SW708	MD-STOP	ON—OFF
SW709	MD-PLAY/PAUSE	ON—OFF
SW712	CD-PLAY/PAUSE	ON—OFF
SW713	CD-STOP	ON—OFF
SW717	CD-OPEN/CLOSE	ON—OFF
SW727	AUX	ON—OFF
SW728	TUNER (BAND)	ON—OFF
SW729	TRACK UP/TUNING UP	ON—OFF
SW730	TRACK DOWN/TUNING DOWN	ON—OFF
SW731	POWER	ON—OFF

REF. NO	DESCRIPTION	POSITION
SW732	MD-MD EDIT	ON—OFF
SW733	TRACK	ON—OFF
SW734	CD-MD EDIT	ON—OFF
SW735	MD-REC	ON—OFF
SW736	MD-EJECT	ON—OFF
SW738	VOLUME UP	ON—OFF
SW739	VOLUME DOWN	ON—OFF
SW901	RESET	ON—OFF
SW1952	DIRECT	ON—OFF
SW1953	LEAD IN	ON—OFF
SW1954	PLAY	ON—OFF
SW1955	RECORD	ON—OFF
SW1956	LOAD	ON—OFF

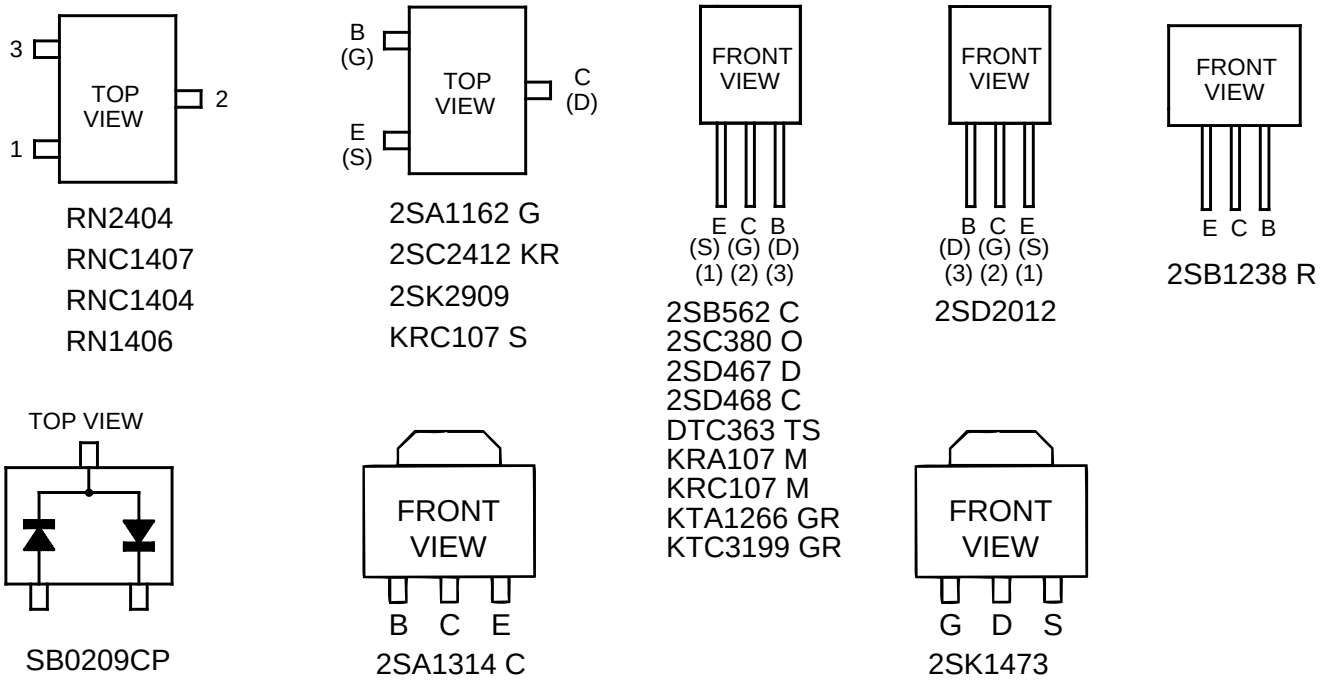


Figure 35 TYPES OF TRANSISTOR AND LED

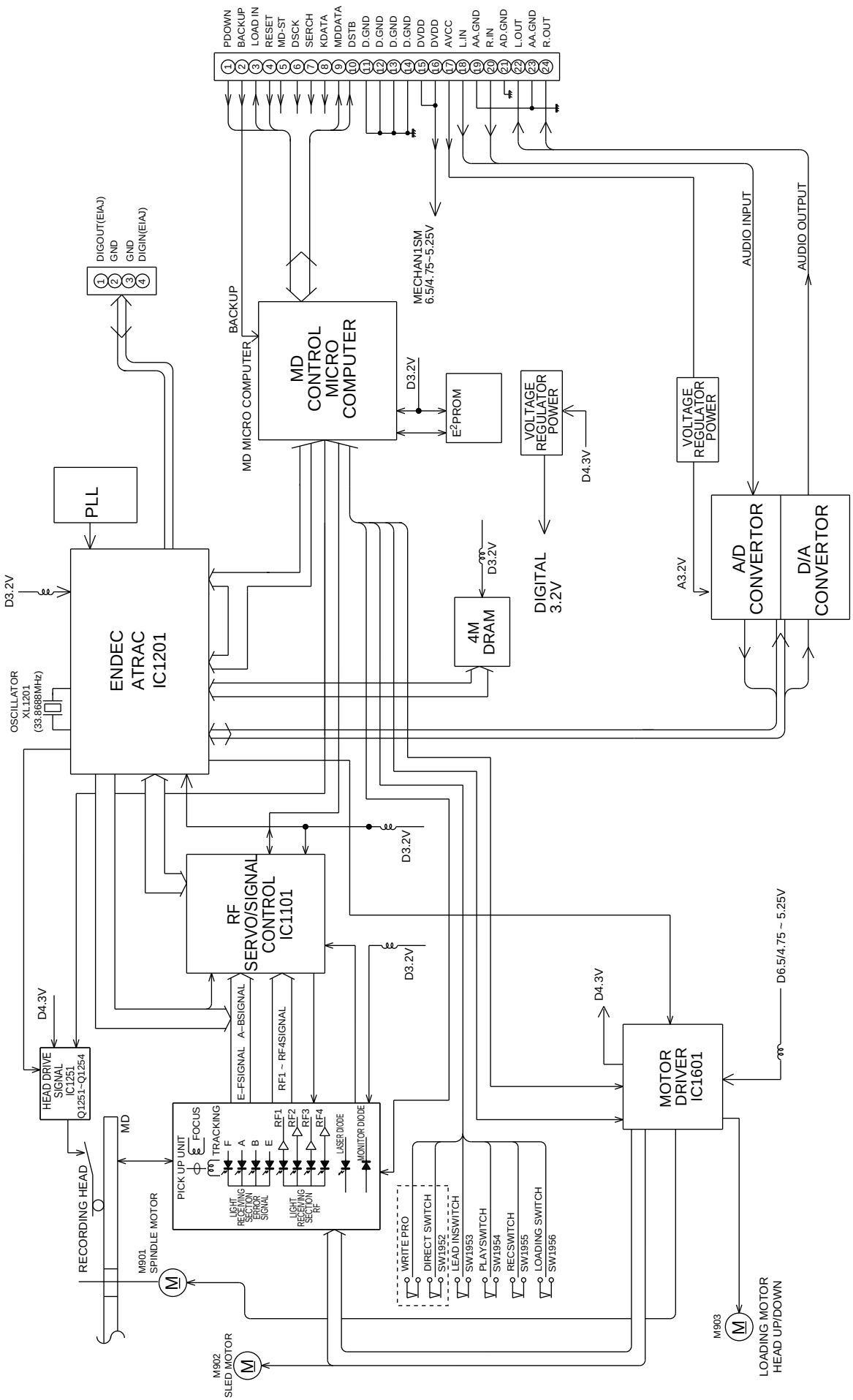


Figure 36 BLOCK DIAGRAM (1/4)

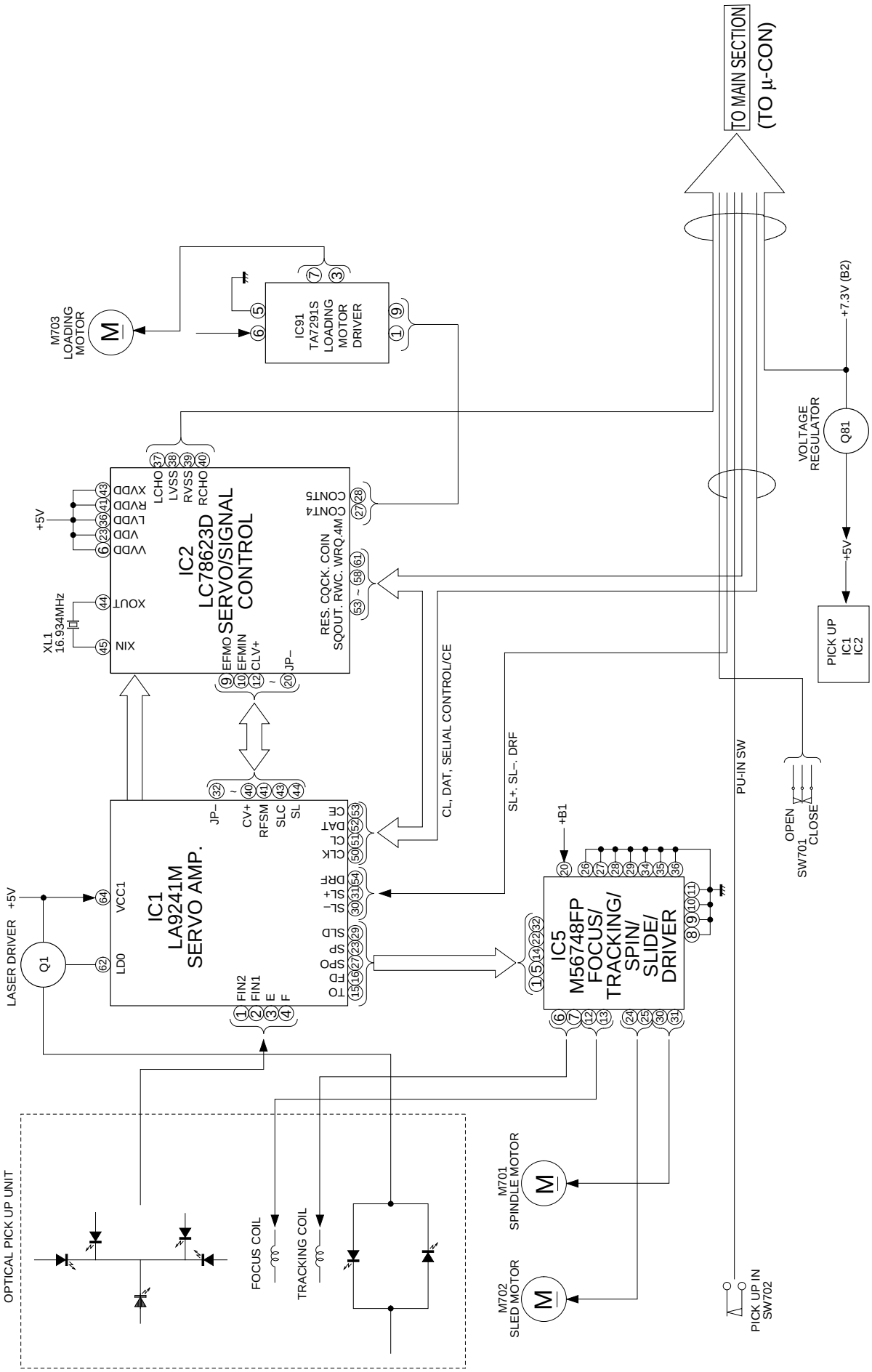


Figure 37 BLOCK DIAGRAM (2/4)

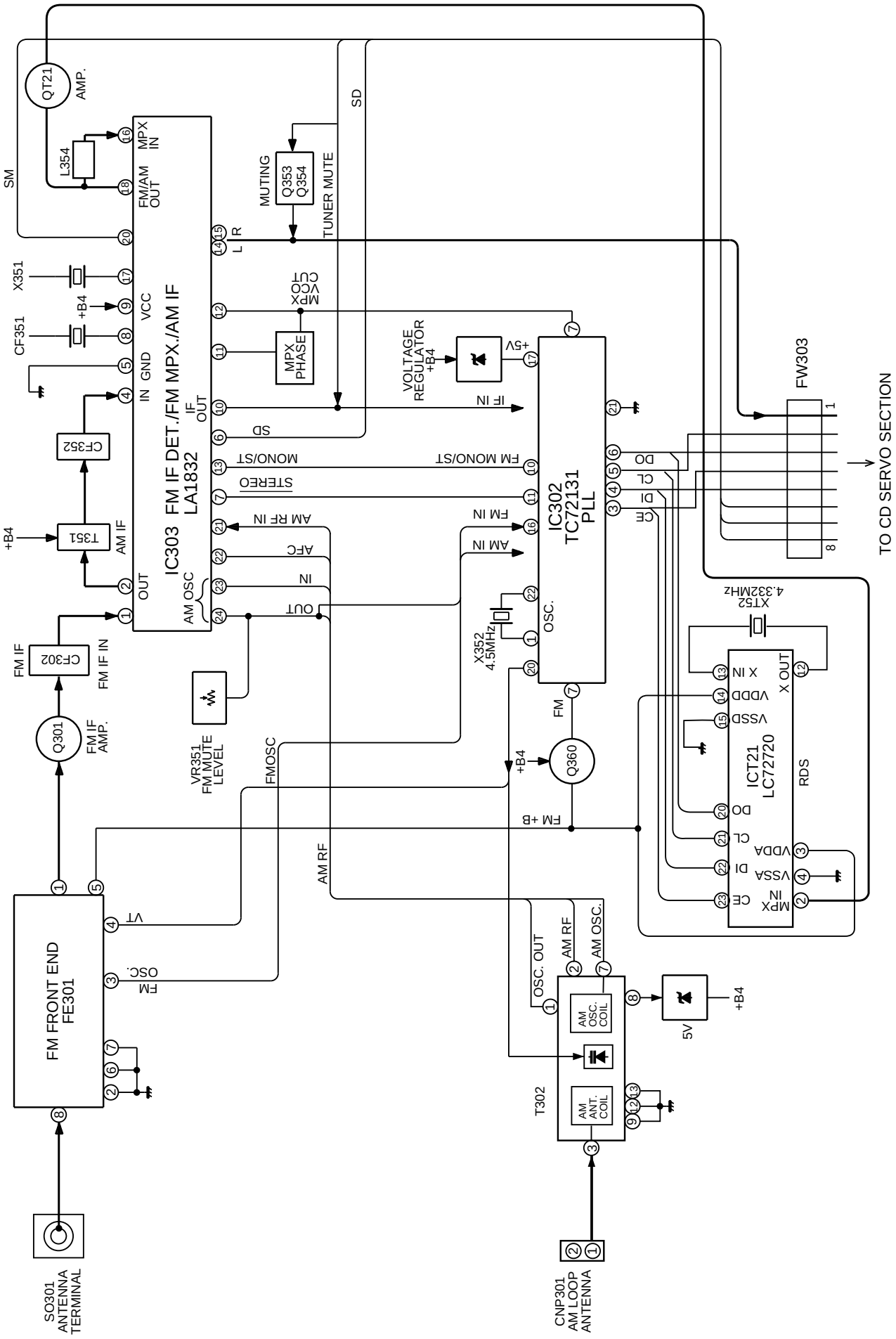


Figure 38 BLOCK DIAGRAM (3/4)

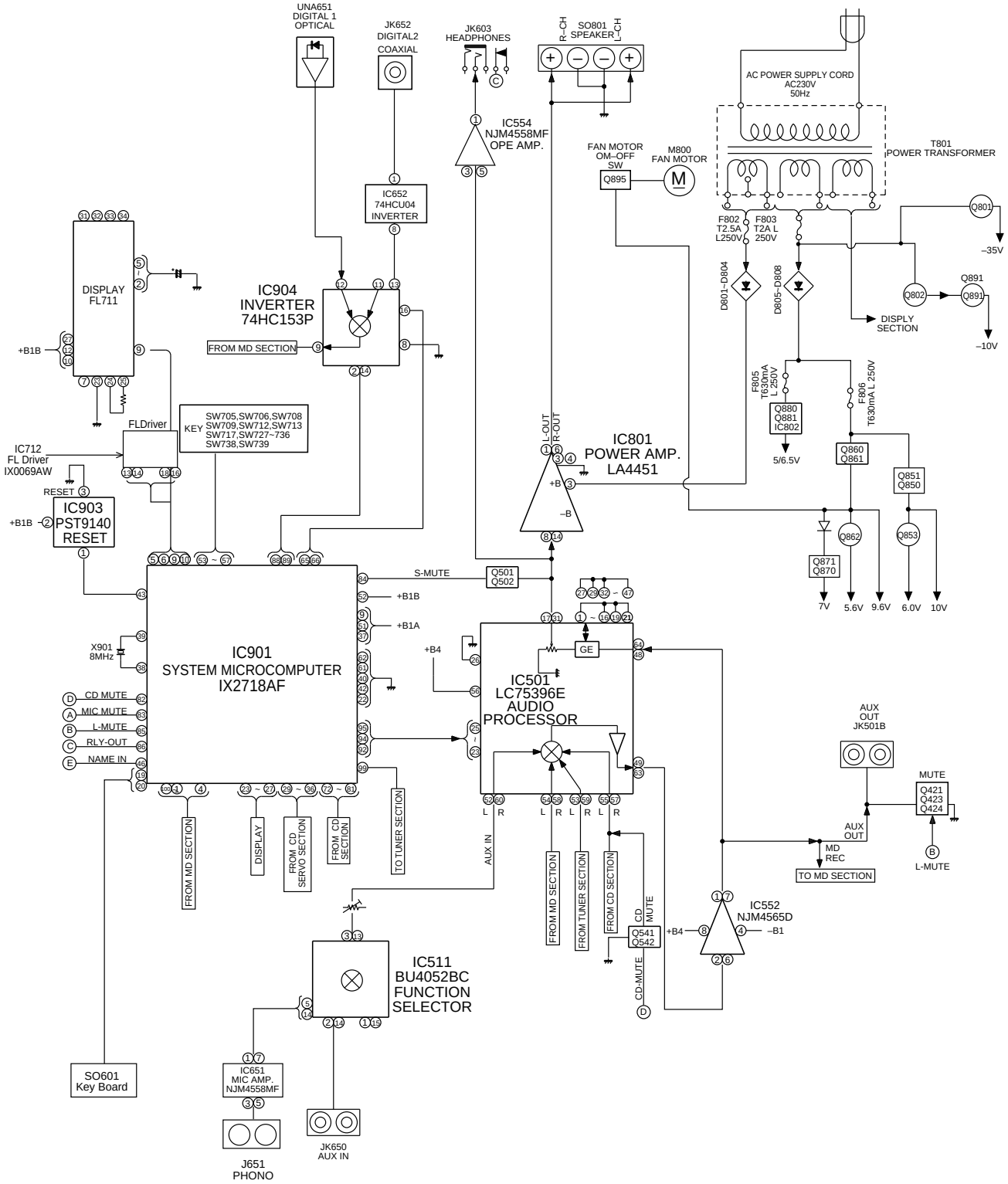
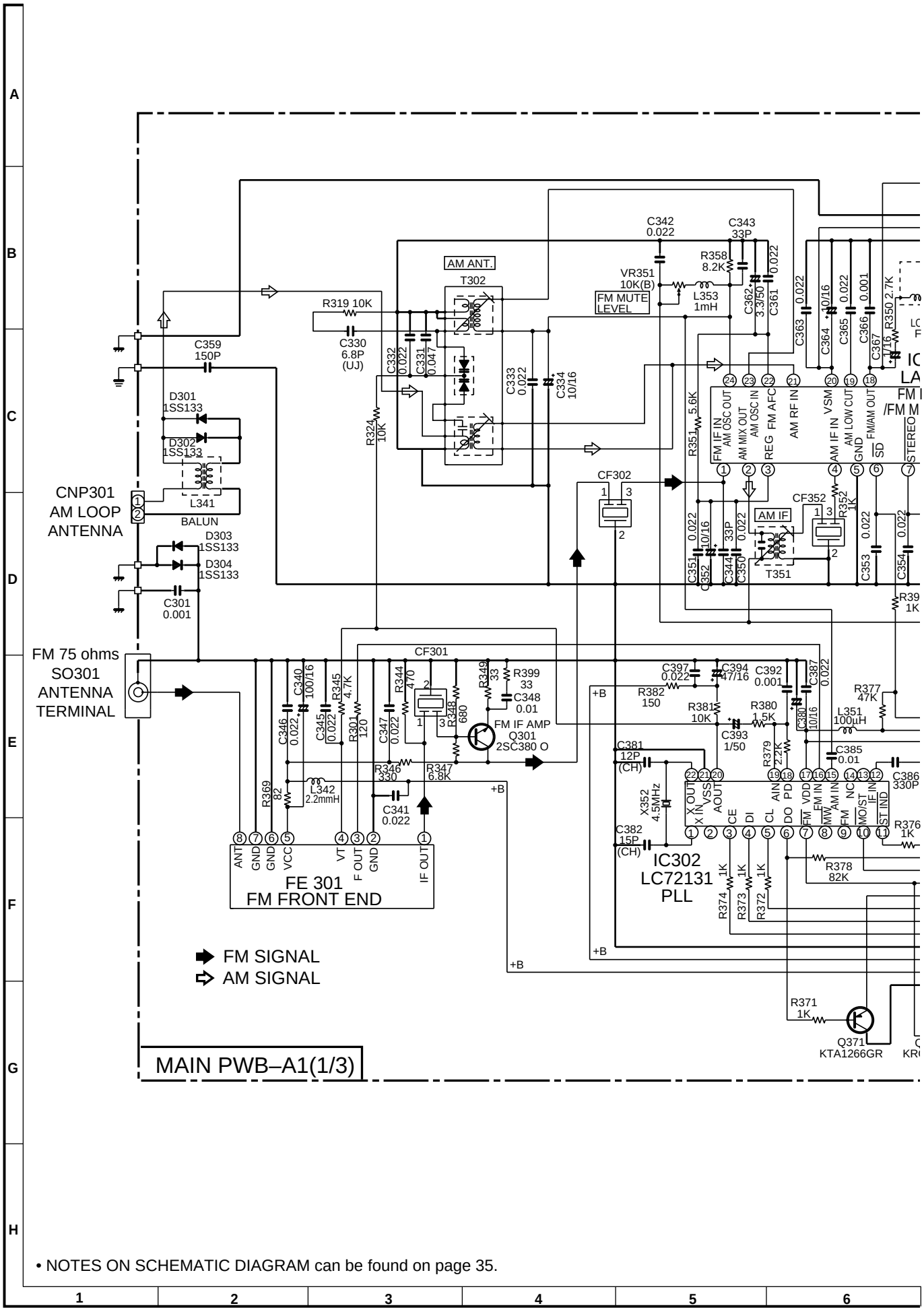


Figure 39 BLOCK DIAGRAM (4/4)



• NOTES ON SCHEMATIC DIAGRAM can be found on page 35.

Figure 40 SCHEMATIC DIAGRAM (1/16)

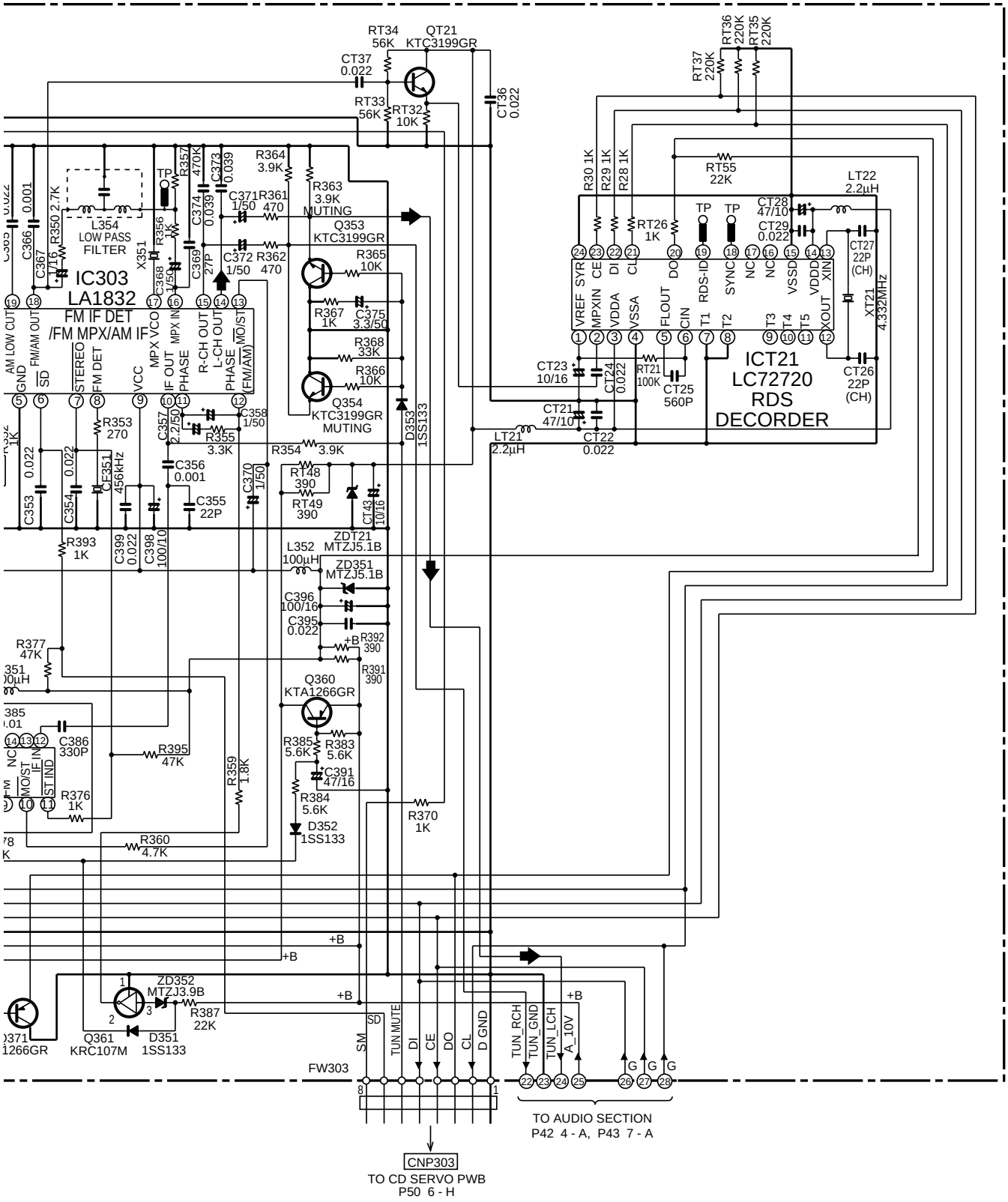
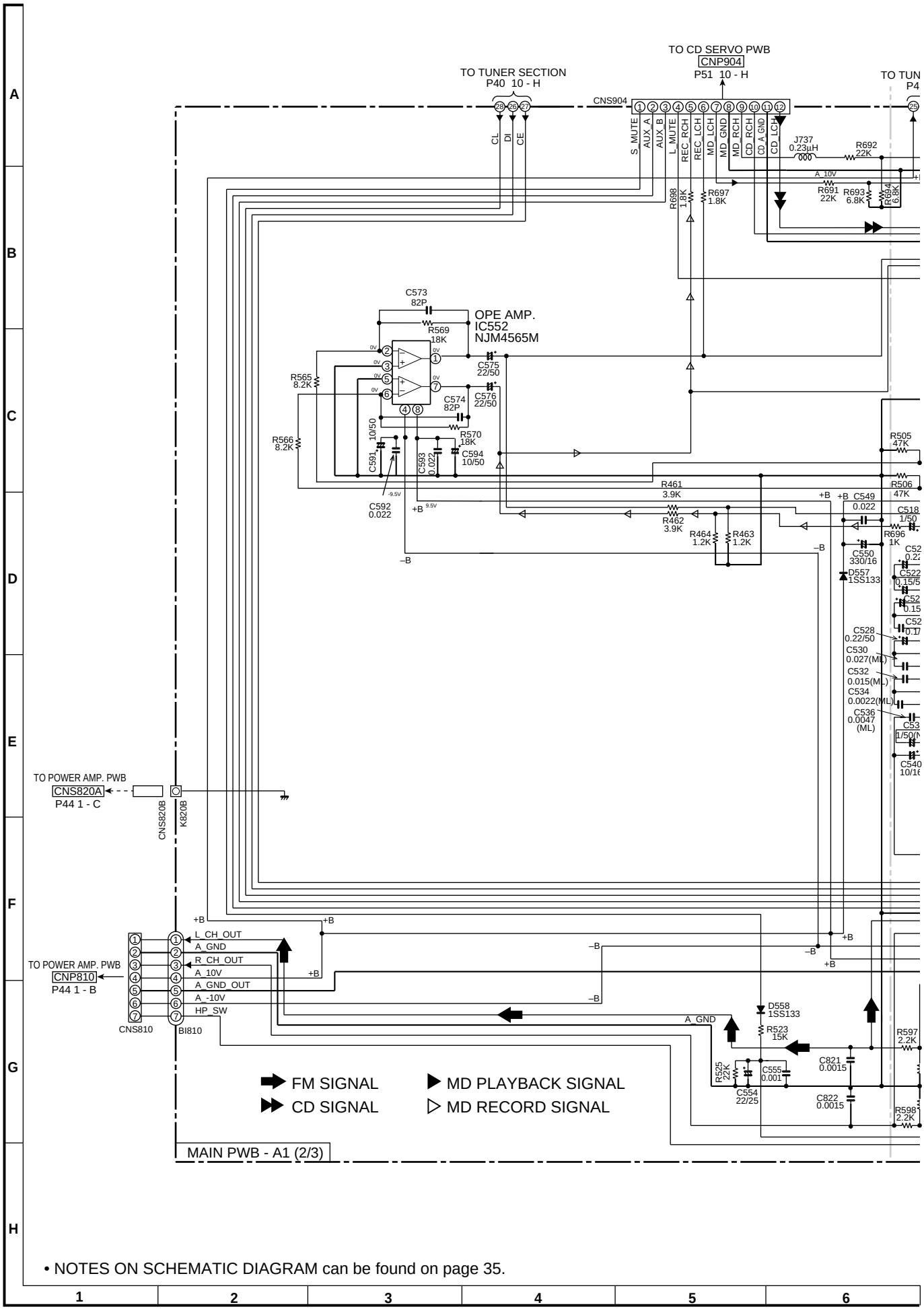
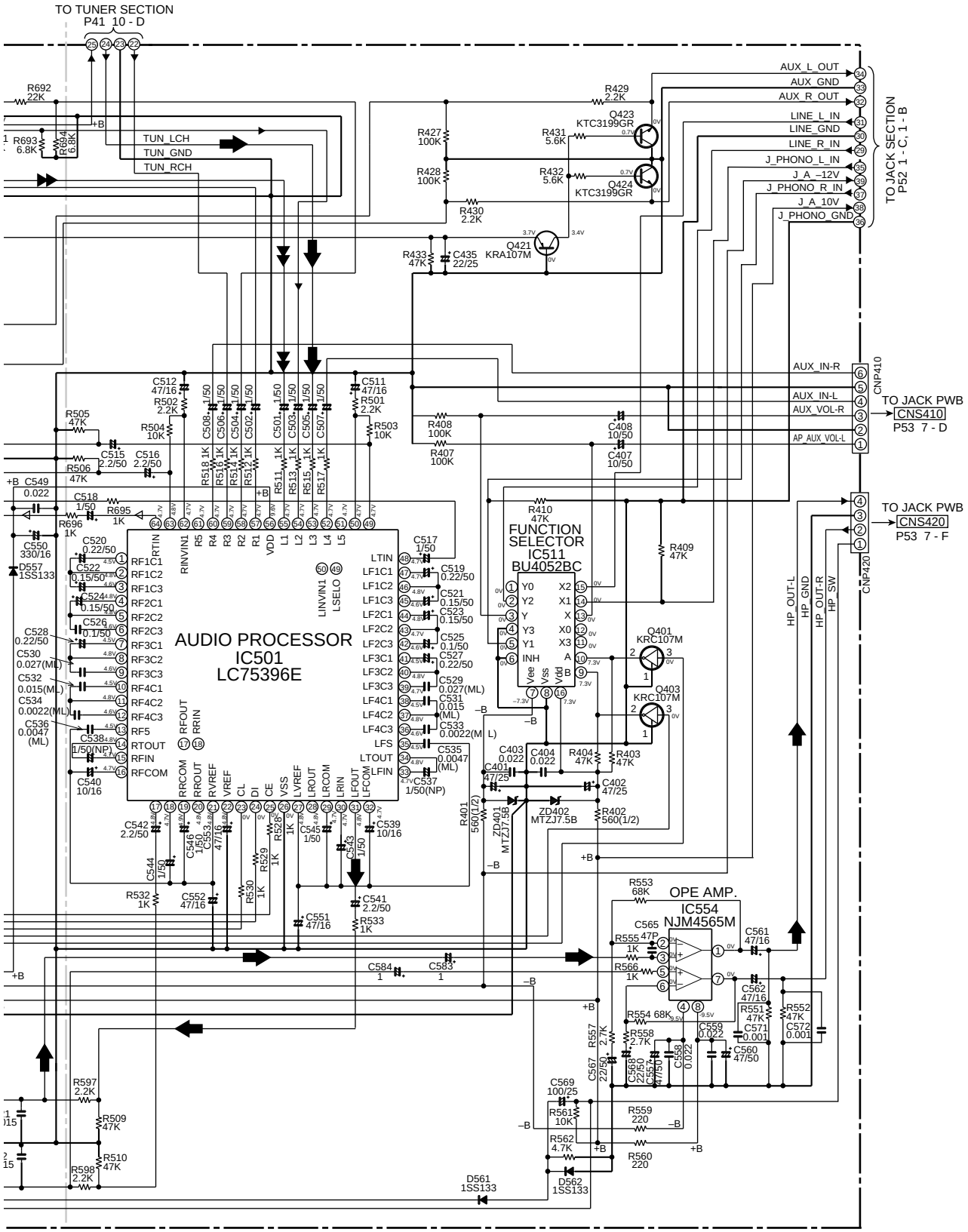


Figure 41 SCHEMATIC DIAGRAM (2/16)



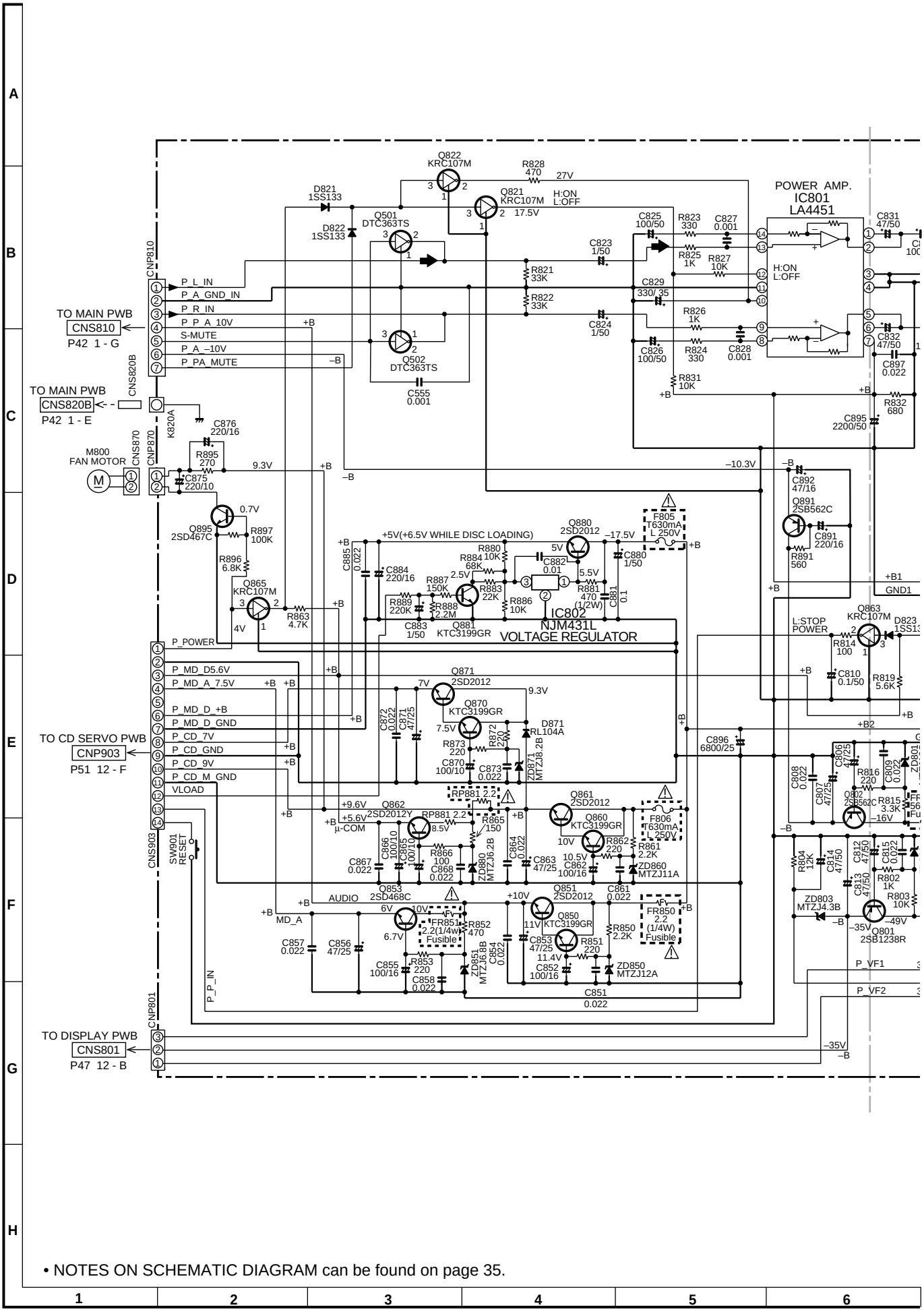
• NOTES ON SCHEMATIC DIAGRAM can be found on page 35.

Figure 42 SCHEMATIC DIAGRAM (3/16)



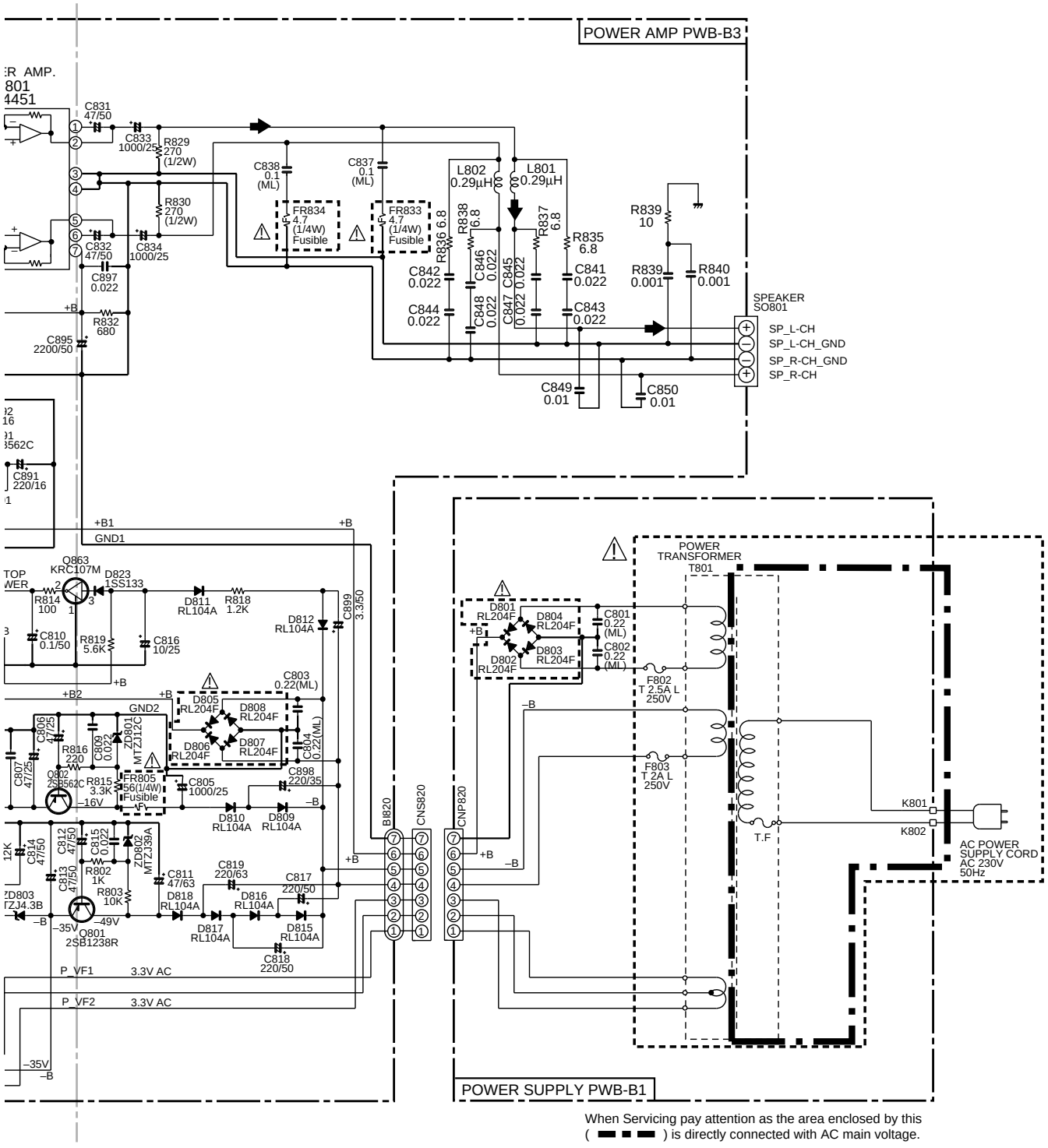
7	8	9	10	11	12

Figure 43 SCHEMATIC DIAGRAM (4/16)



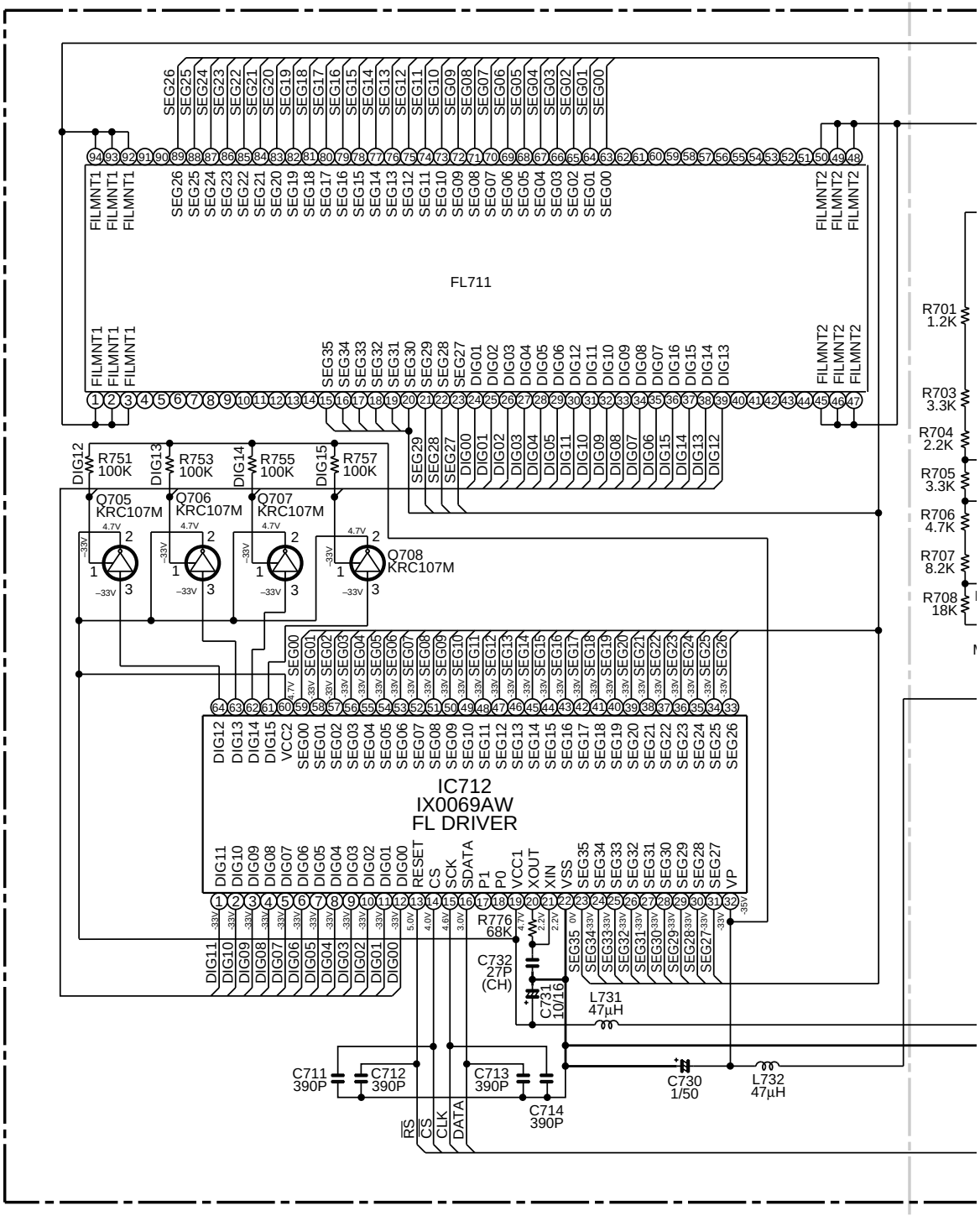
• NOTES ON SCHEMATIC DIAGRAM can be found on page 35.

Figure 44 SCHEMATIC DIAGRAM (5/16)


POWER AMP PWB-B3
SPEAKER SO801
SP_L-CH
SP_L-CH_GND
SP_R-CH_GND
SP_R-CH
POWER TRANSFORMER T801
POWER SUPPLY PWB-B1
AC POWER SUPPLY CORD AC 230V 50Hz
When Servicing pay attention as the area enclosed by this (▬ ▬ ▬) is directly connected with AC main voltage.

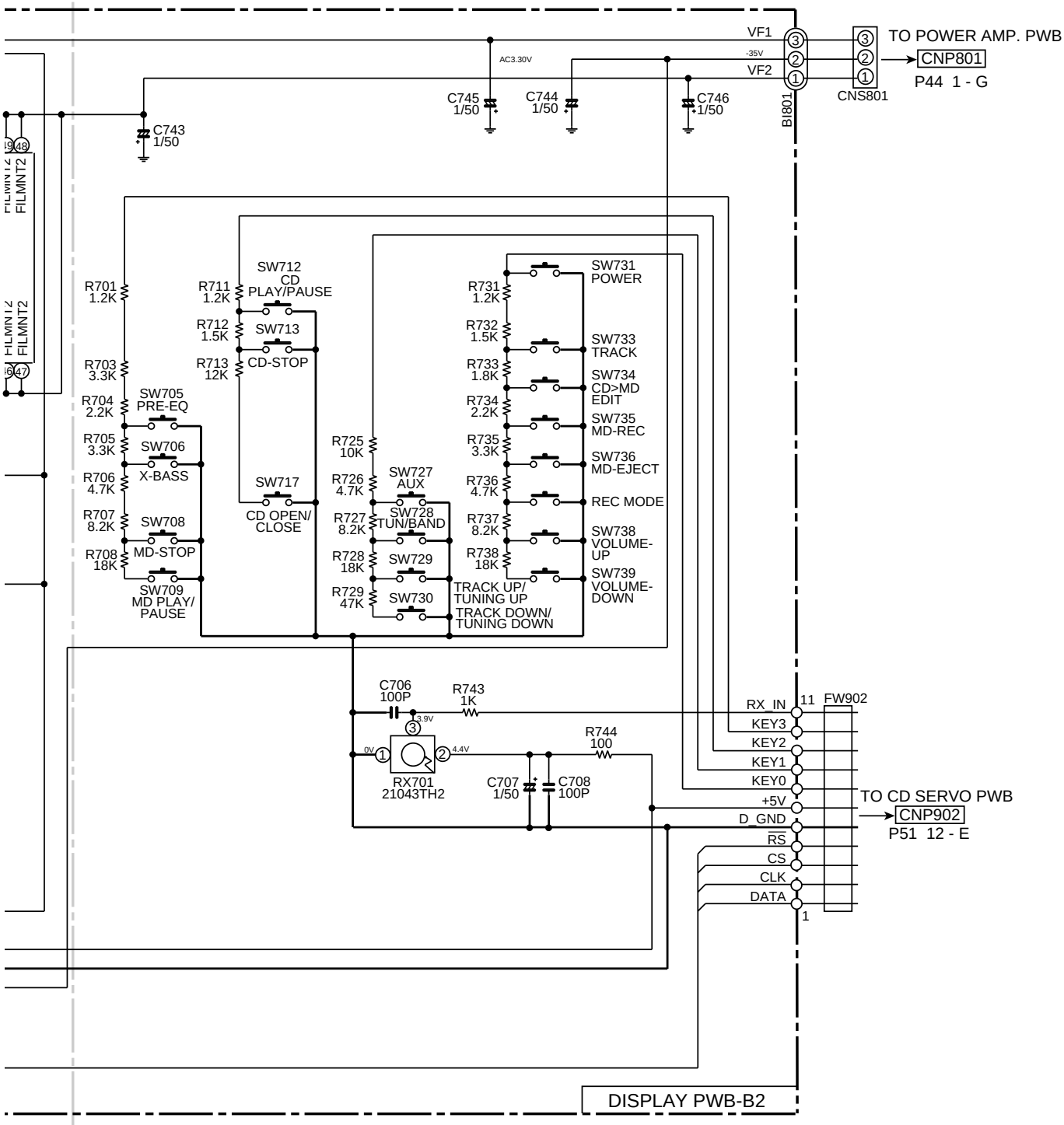
7	8	9	10	11	12

Figure 45 SCHEMATIC DIAGRAM (6/16)



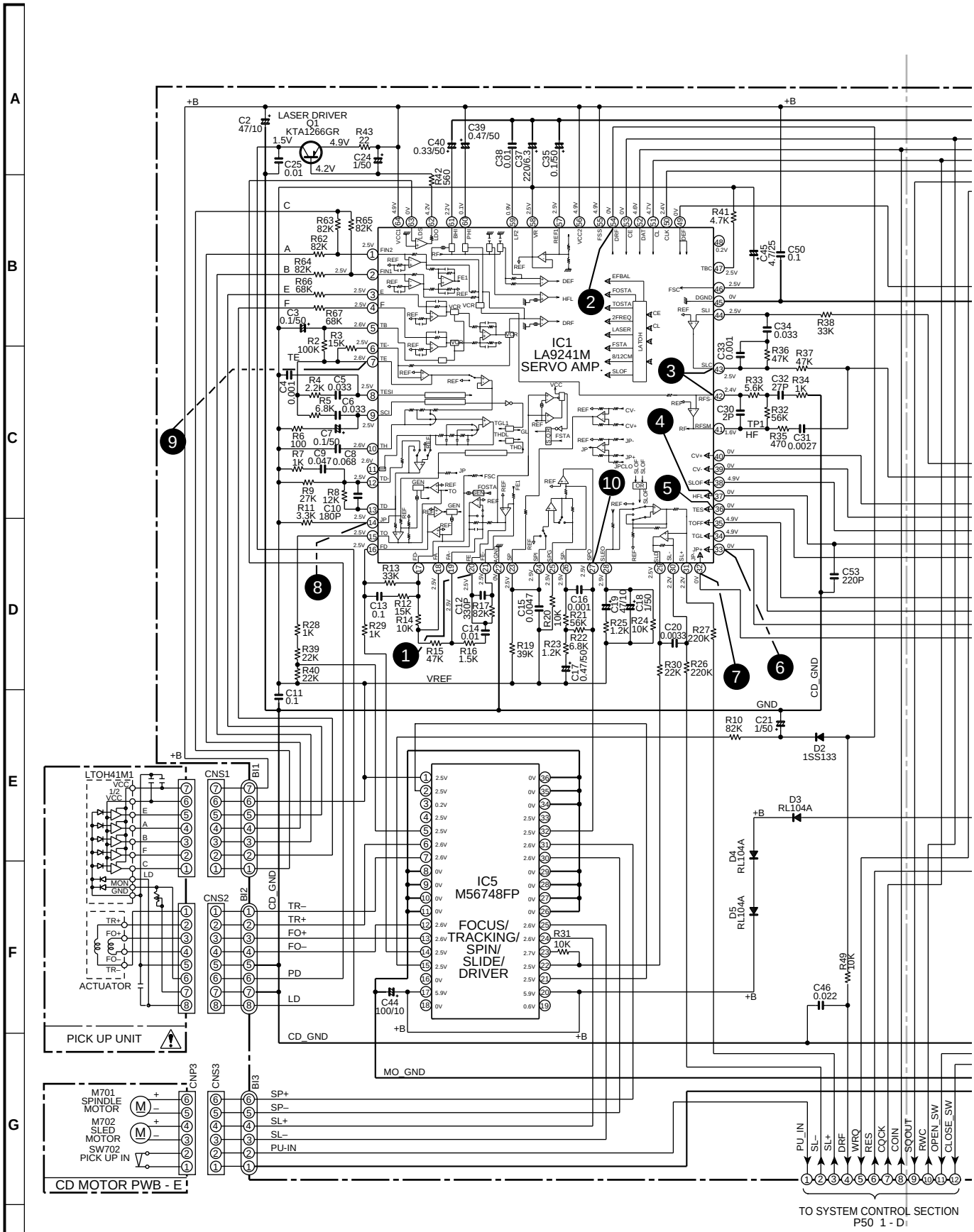
• NOTES ON SCHEMATIC DIAGRAM can be found on page 35.

Figure 46 SCHEMATIC DIAGRAM (7/16)



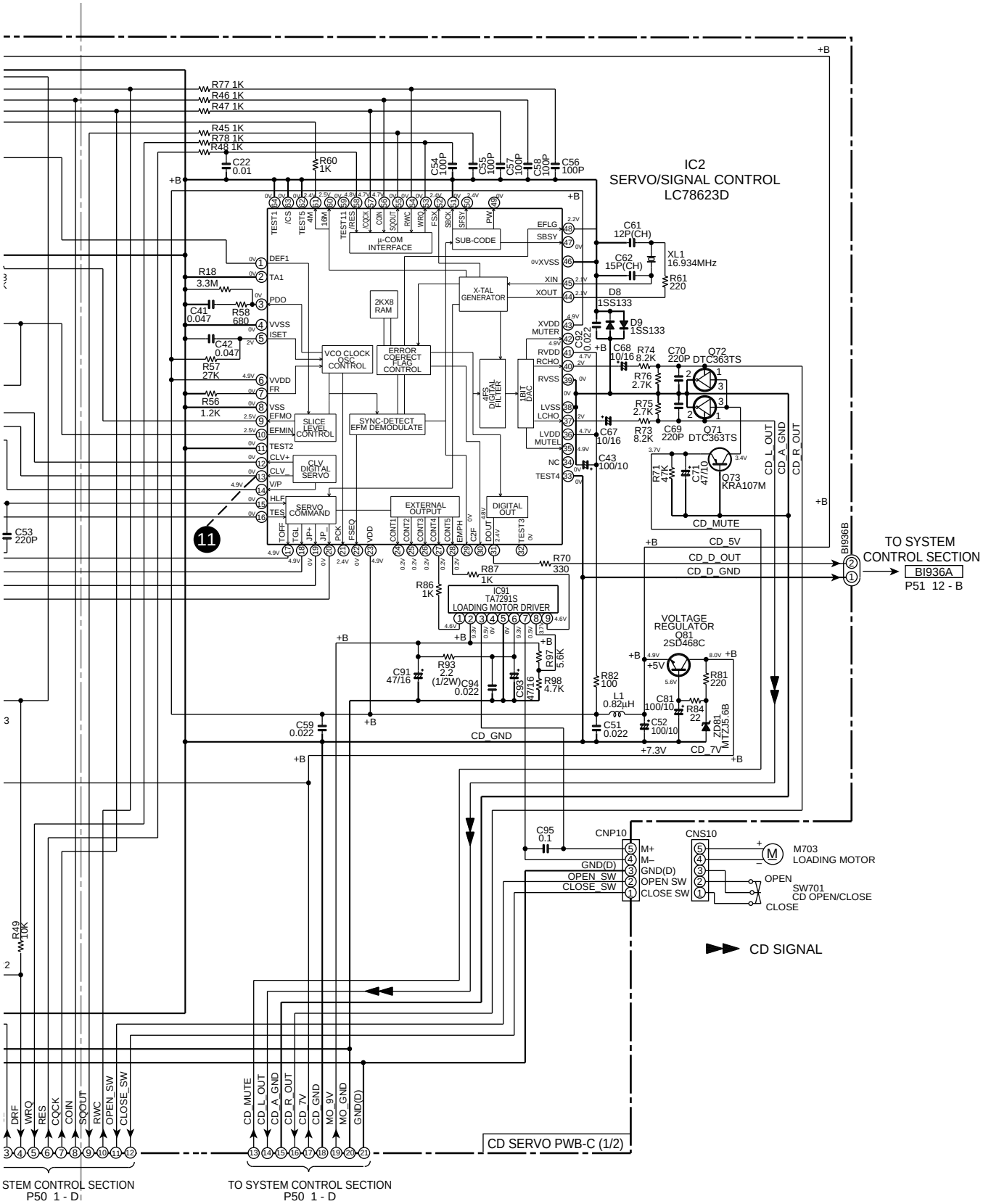
7	8	9	10	11	12

Figure 47 SCHEMATIC DIAGRAM (8/16)



• NOTES ON SCHEMATIC DIAGRAM can be found on page 35.

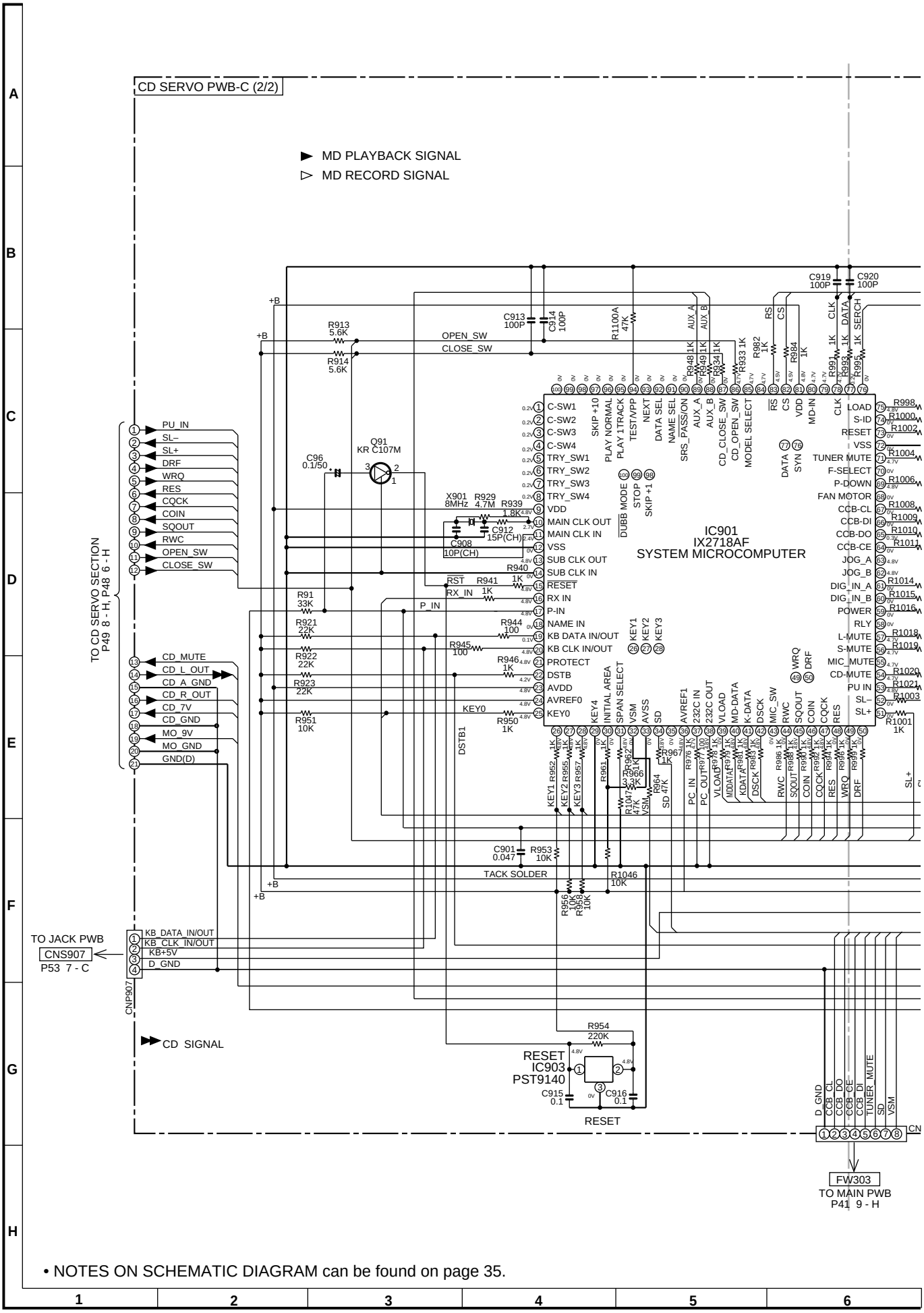
Figure 48 SCHEMATIC DIAGRAM (9/16)



• The numbers ❶ to ⓫ are waveform numbers shown in page 66.

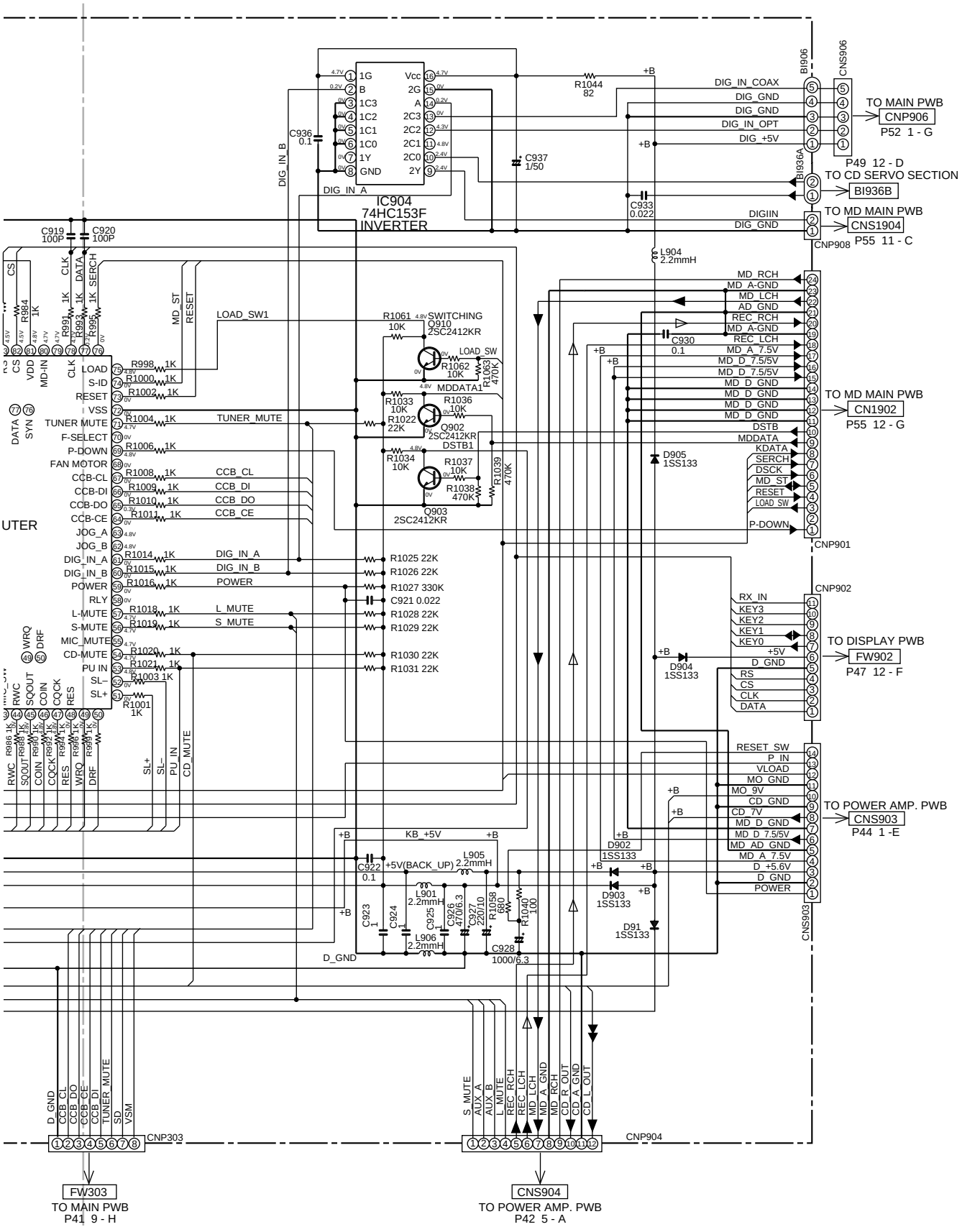
7	8	9	10	11	12

Figure 49 SCHEMATIC DIAGRAM (10/16)



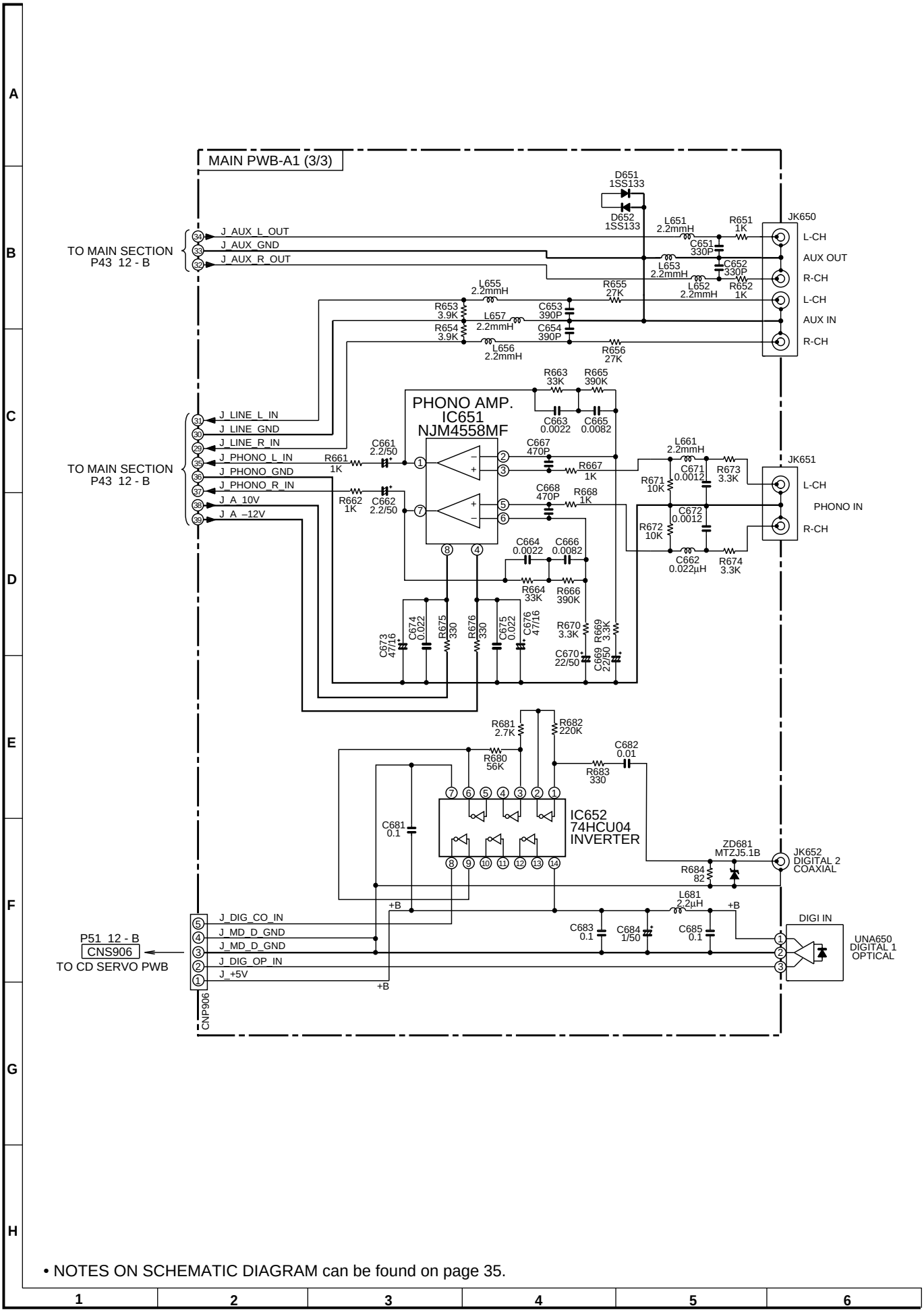
• NOTES ON SCHEMATIC DIAGRAM can be found on page 35.

Figure 50 SCHEMATIC DIAGRAM (11/16)



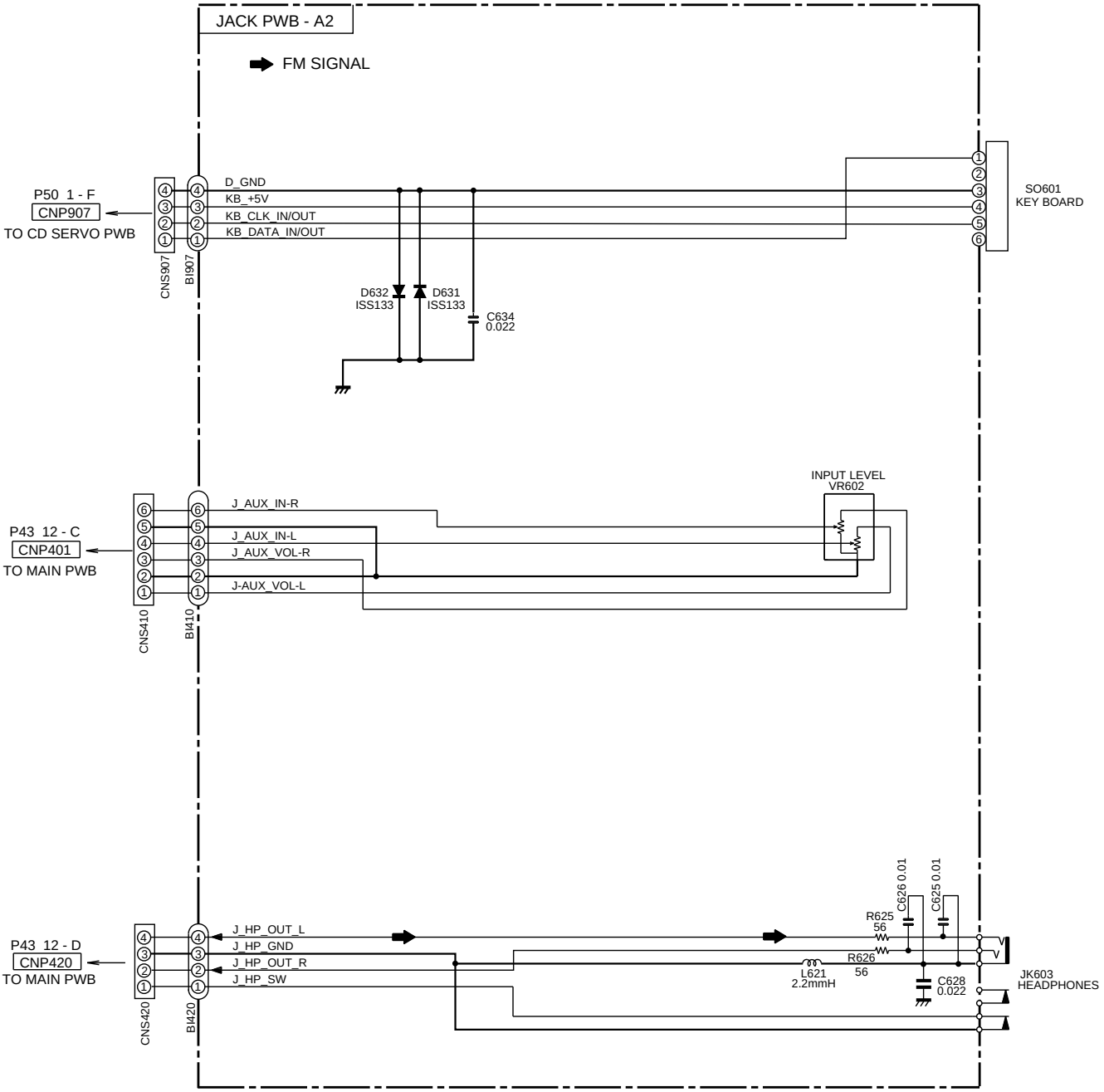
7	8	9	10	11	12

Figure 51 SCHEMATIC DIAGRAM (12/16)



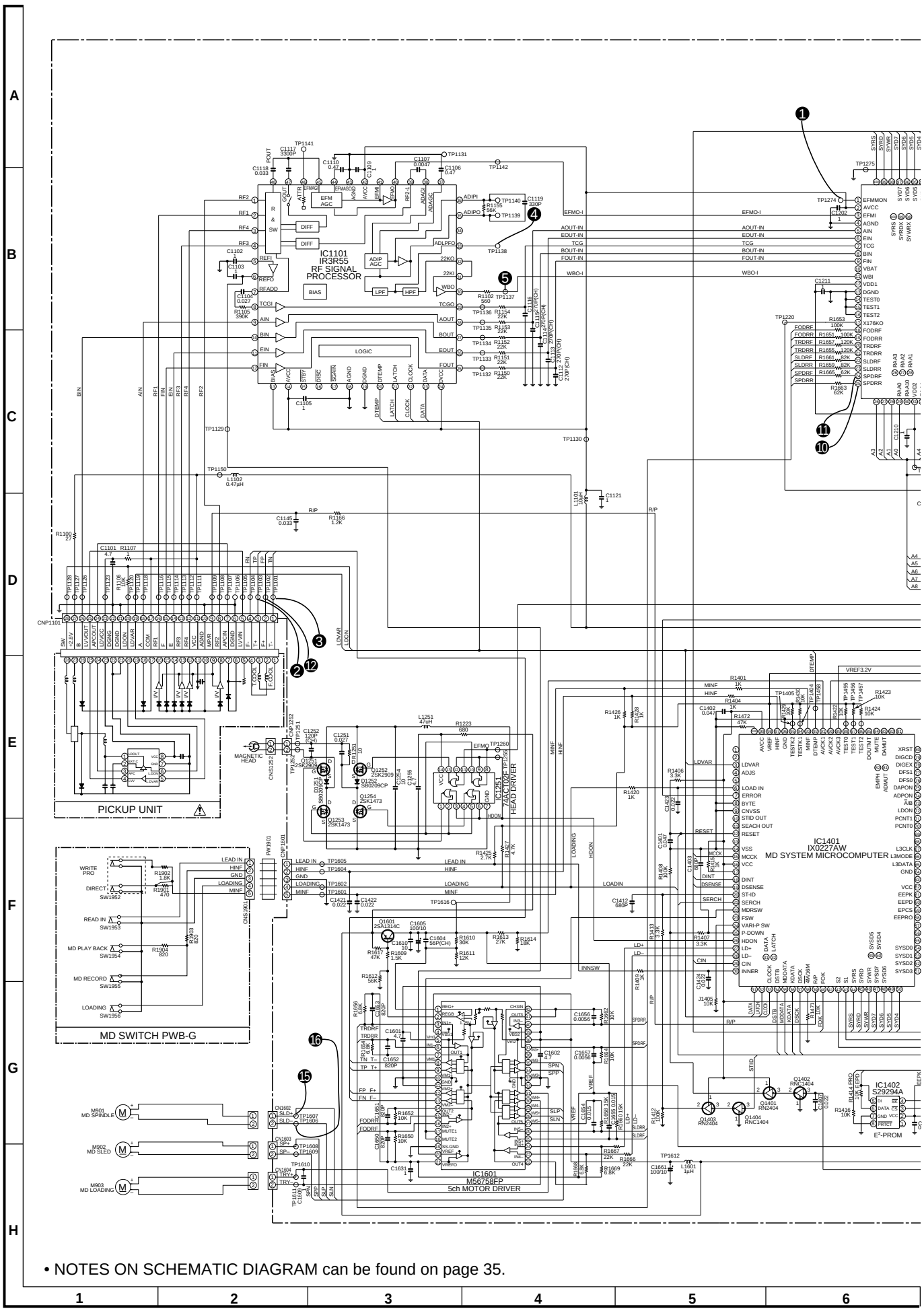
• NOTES ON SCHEMATIC DIAGRAM can be found on page 35.

Figure 52 SCHEMATIC DIAGRAM (13/16)



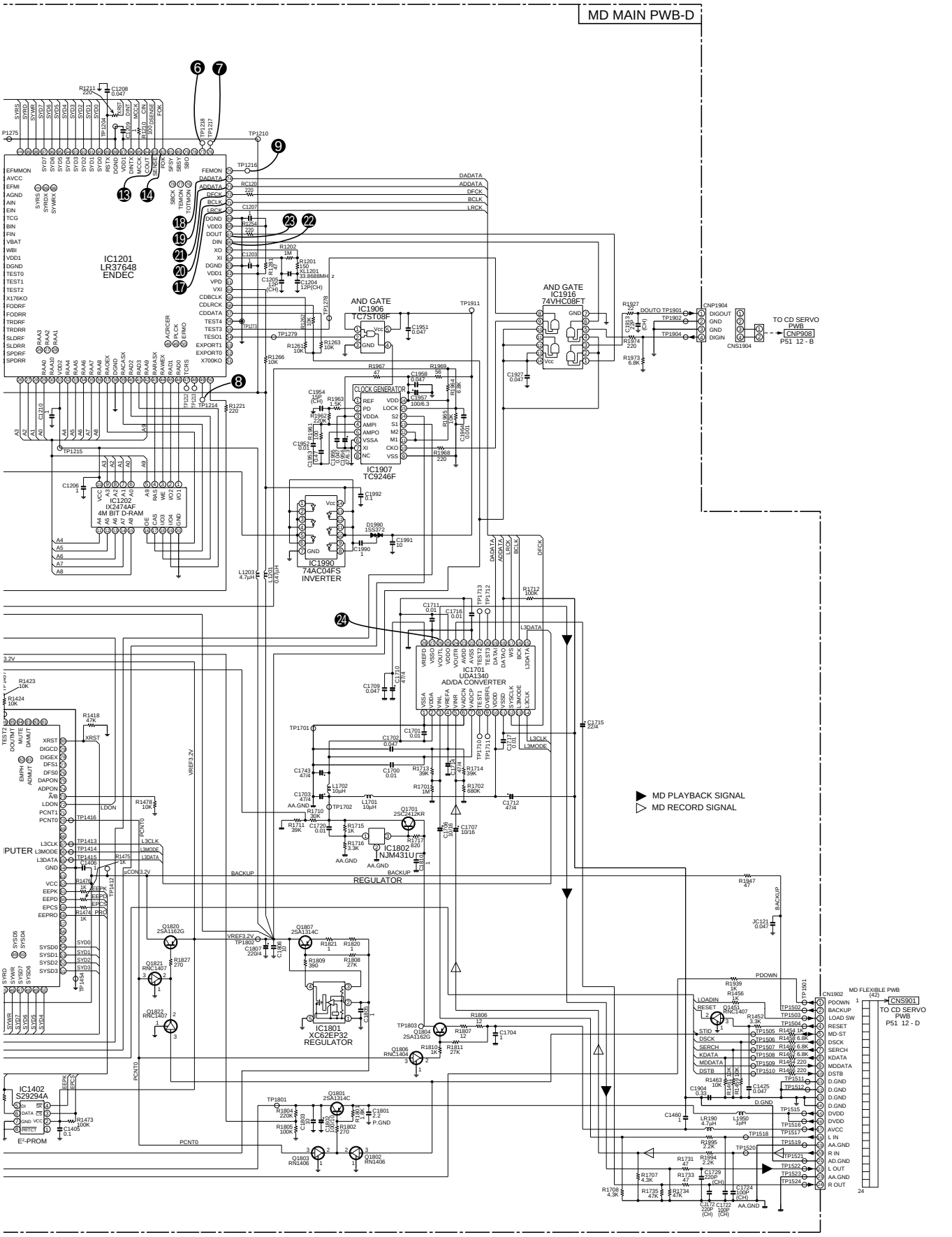
7	8	9	10	11	12

Figure 53 SCHEMATIC DIAGRAM (14/16)



• NOTES ON SCHEMATIC DIAGRAM can be found on page 35.

Figure 54 SCHEMATIC DIAGRAM (15/16)



• The numbers ❶ to ㉔ are waveform numbers shown in page 67 and 68.

7	8	9	10	11	12

Figure 55 SCHEMATIC DIAGRAM (16/16)

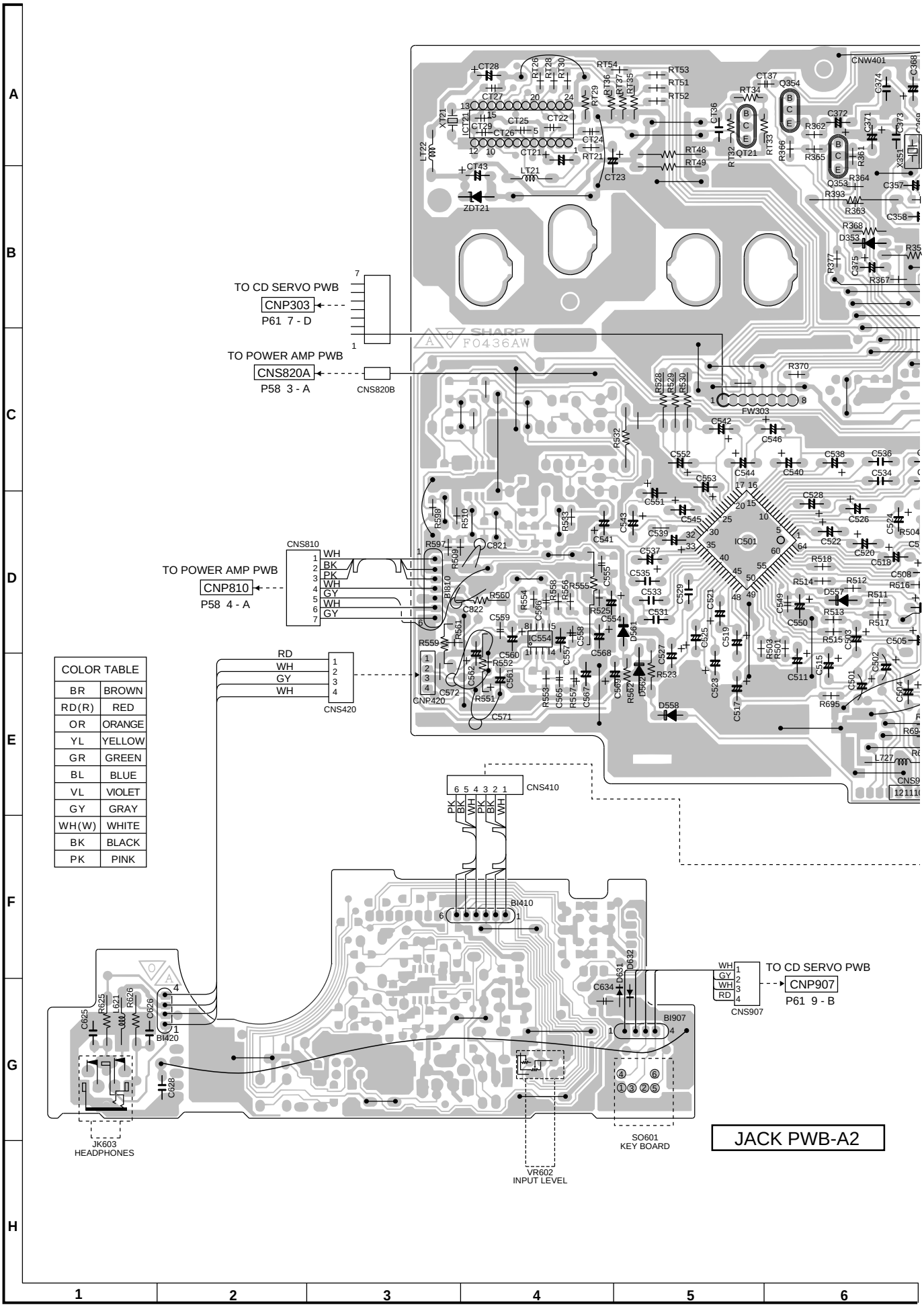
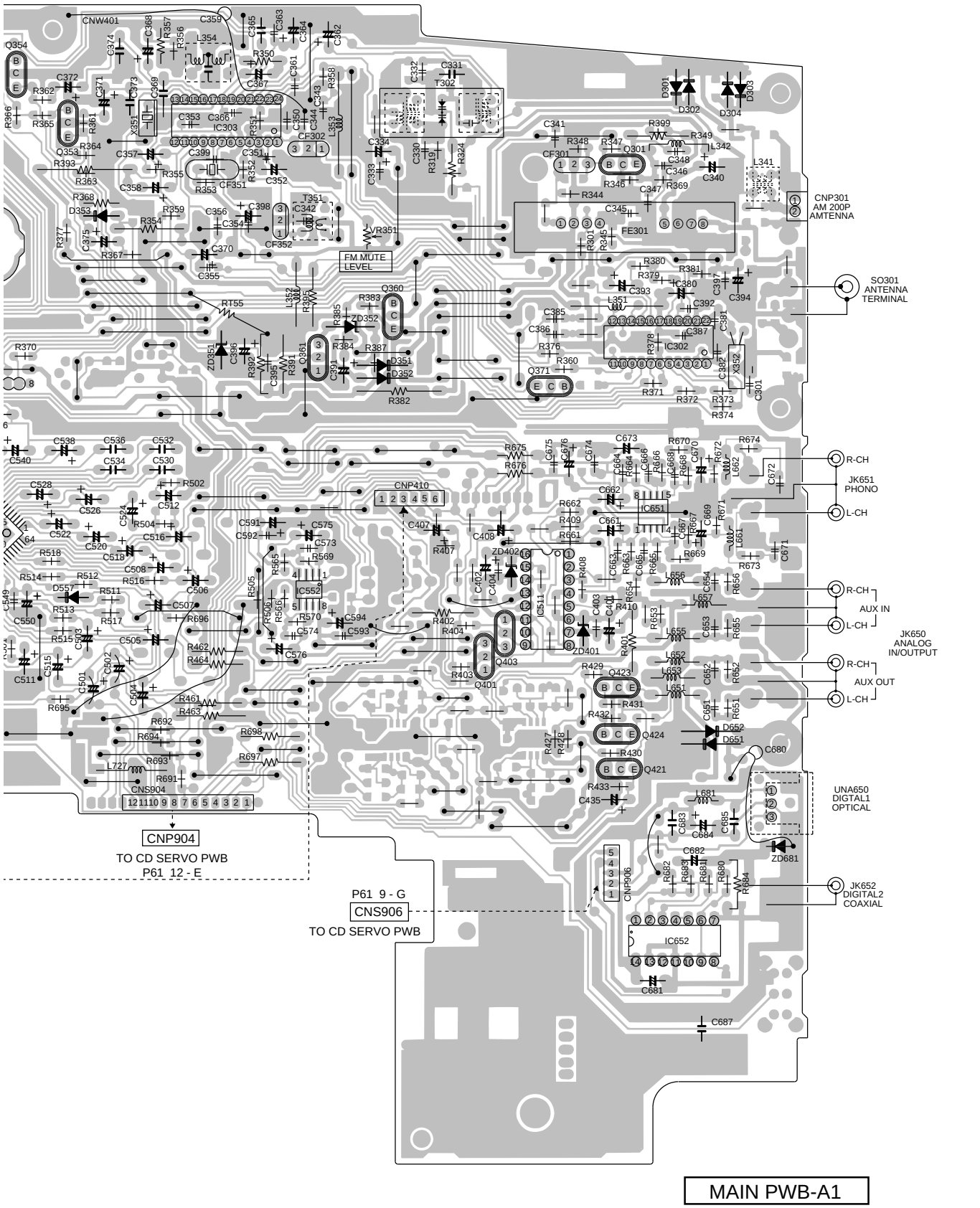
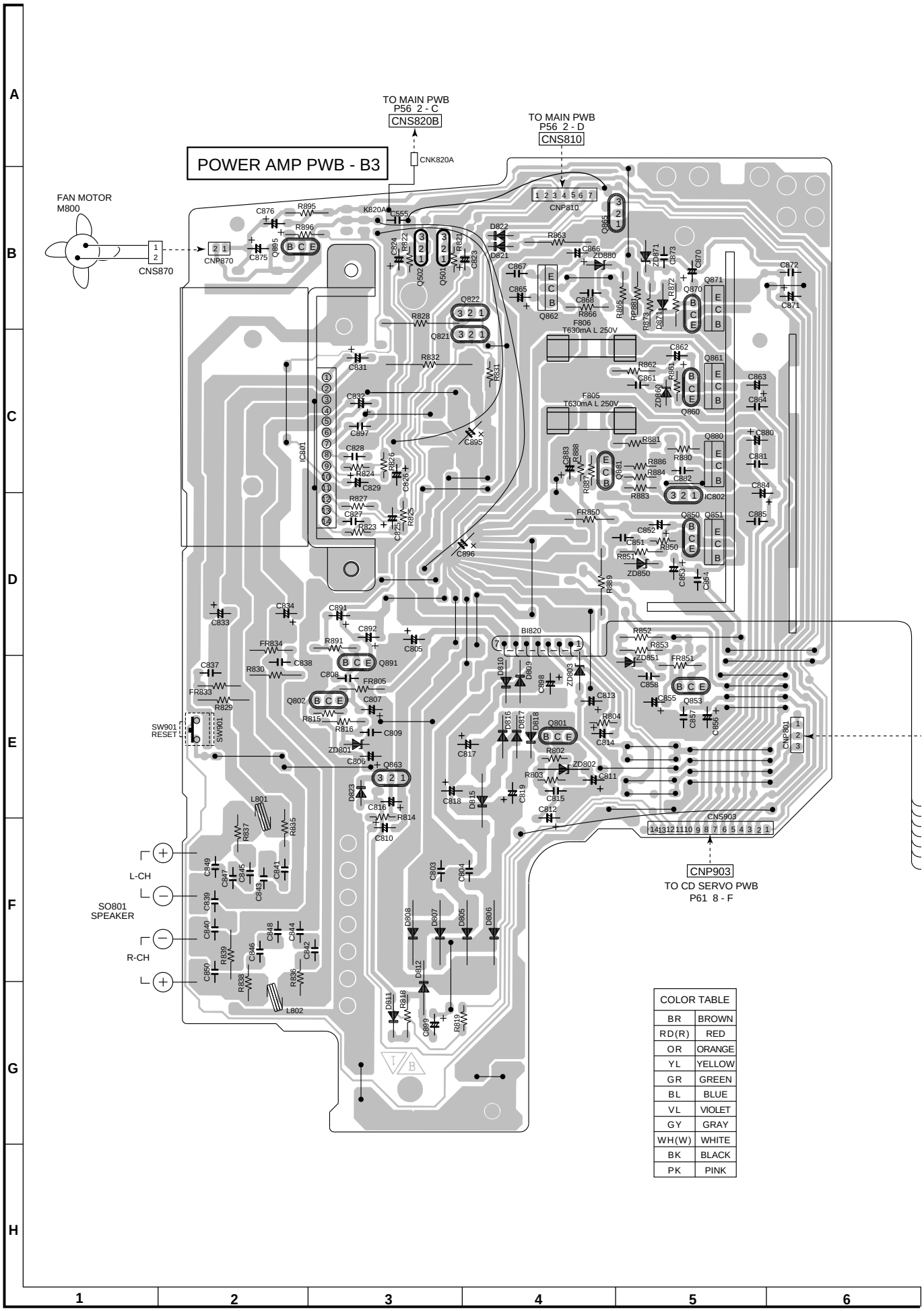


Figure 56 WIRING SIDE OF P.W.BOARD (1/9)



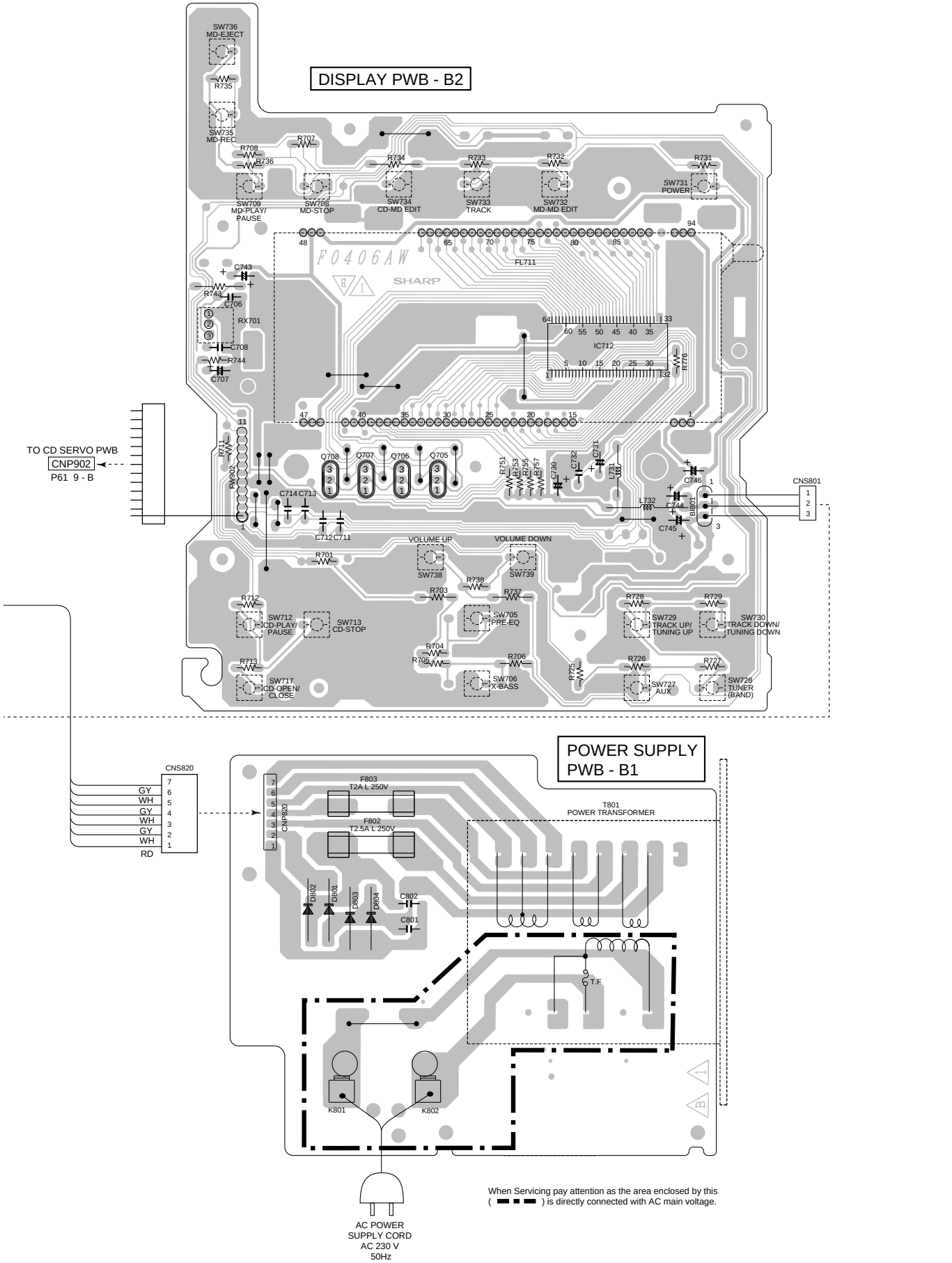
7	8	9	10	11	12

Figure 57 WIRING SIDE OF P.W.BOARD (2/9)



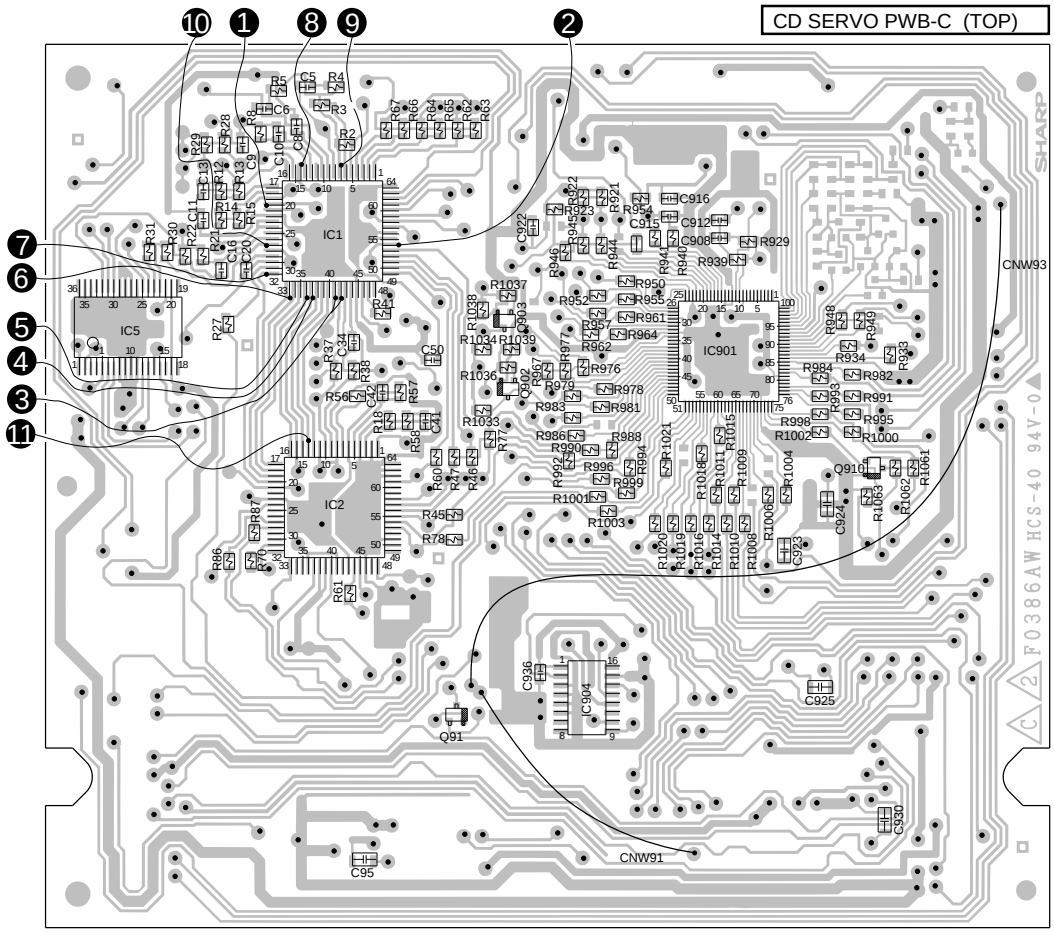
COLOR TABLE	
BR	BROWN
RD(R)	RED
OR	ORANGE
YL	YELLOW
GR	GREEN
BL	BLUE
VL	VIOLET
GY	GRAY
WH(W)	WHITE
BK	BLACK
PK	PINK

Figure 58 WIRING SIDE OF P.W.BOARD (3/9)



7	8	9	10	11	12

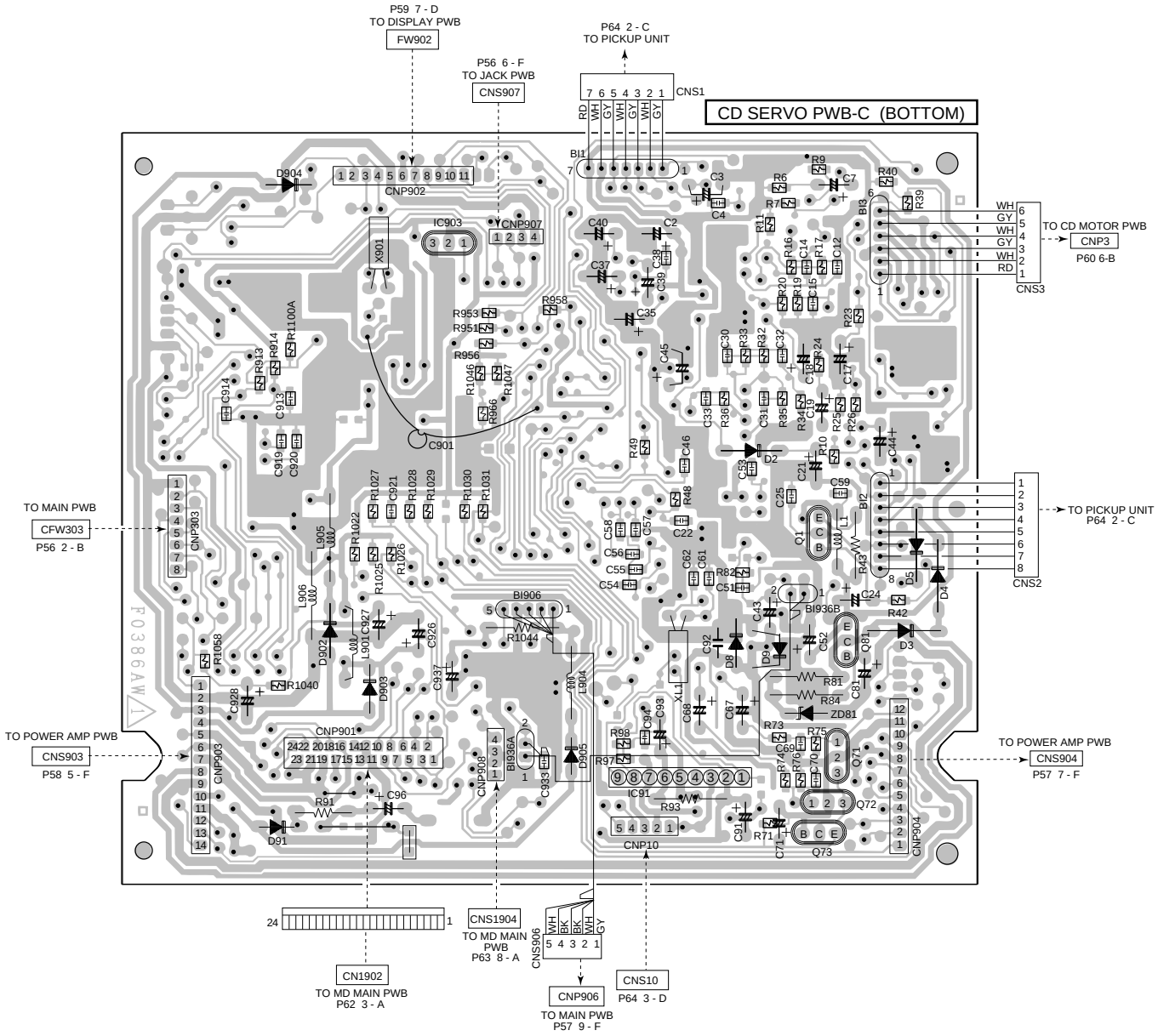
Figure 59 WIRING SIDE OF P.W.BOARD (4/9)



COLOR TABLE													
BR	BROWN	RD(R)	RED	OR	ORANGE	YL	YELLOW	GR	GREEN	BL	BLUE	VL	VIOLET
GY	GRAY	WH(W)	WHITE	BK	BLACK	PK	PINK						

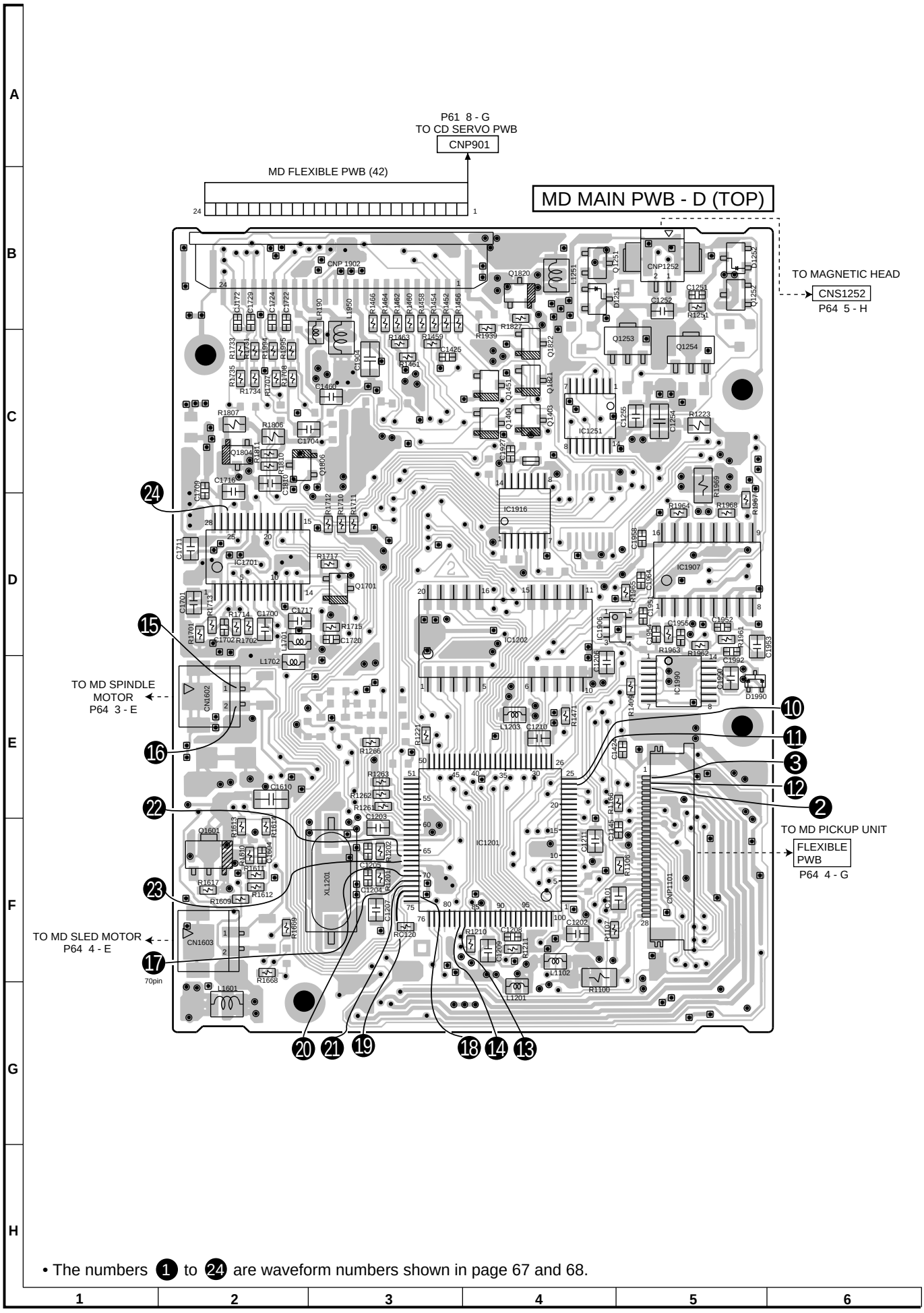
• The numbers ❶ to ⓫ are waveform numbers shown in page 66.

Figure 60 WIRING SIDE OF P.W.BOARD (5/9)



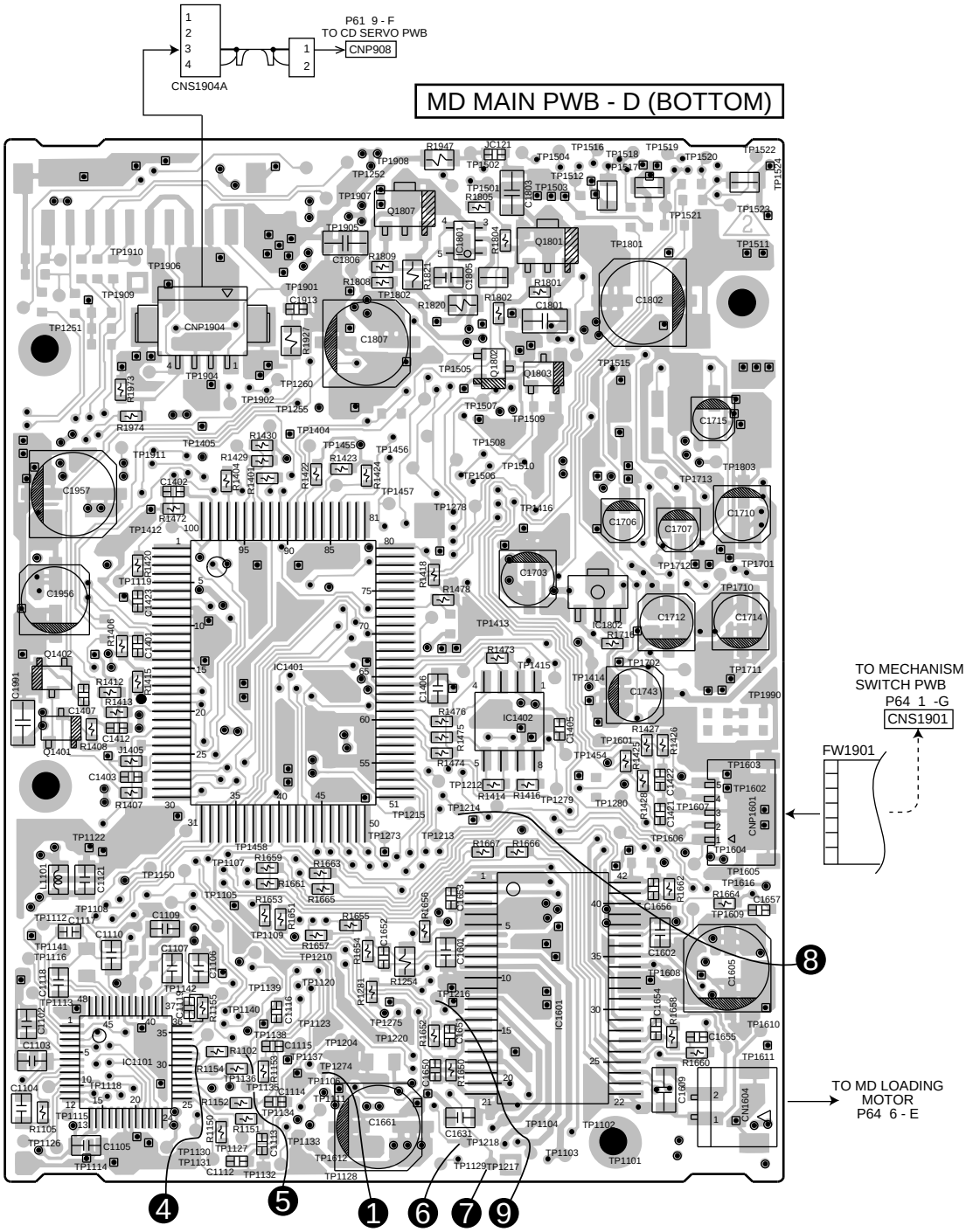
7	8	9	10	11	12

Figure 61 WIRING SIDE OF P.W.BOARD (6/9)



• The numbers ❶ to ㉔ are waveform numbers shown in page 67 and 68.

Figure 62 WIRING SIDE OF P.W.BOARD (7/9)



7	8	9	10	11	12

Figure 63 WIRING SIDE OF P.W.BOARD (8/9)

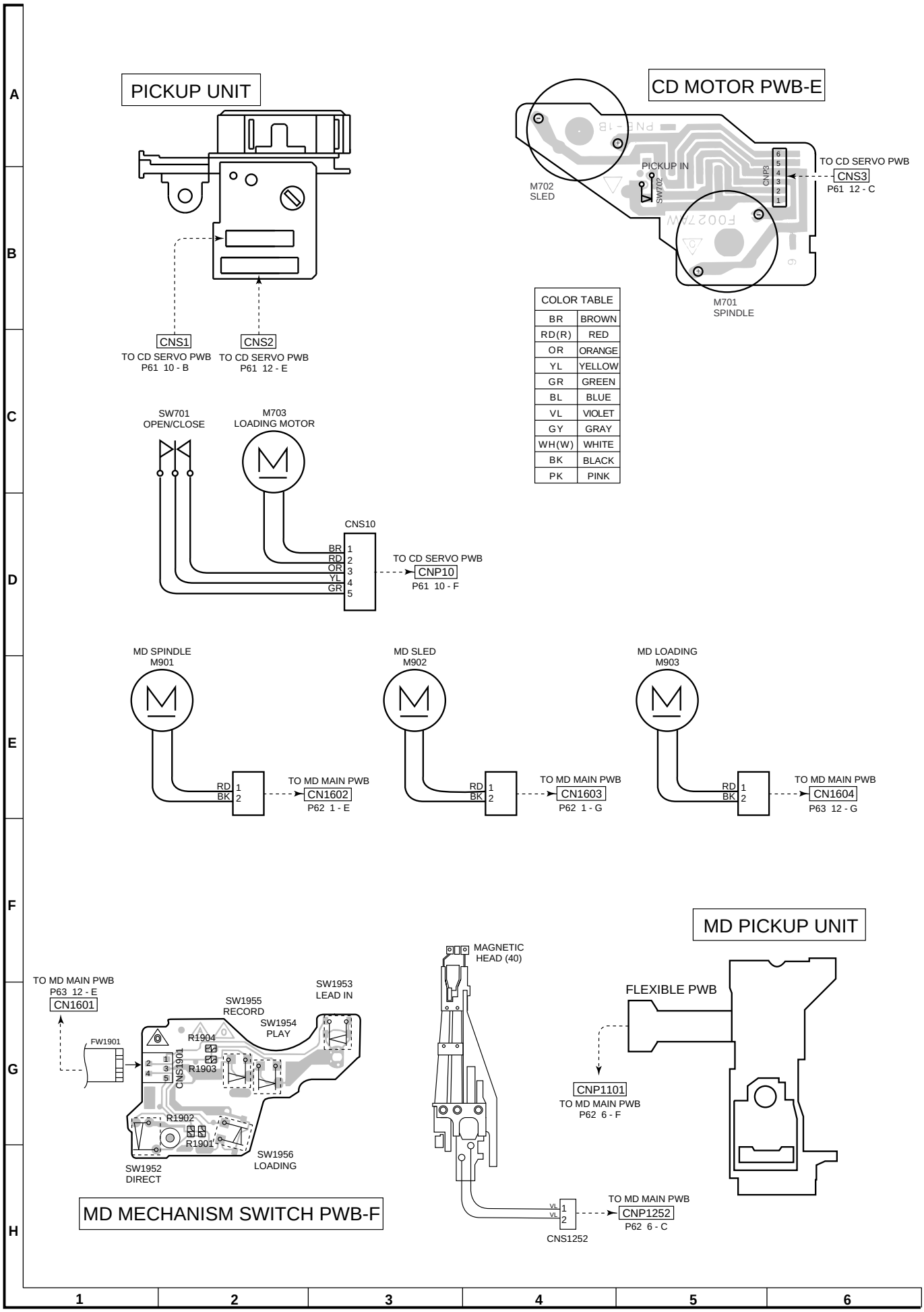


Figure 64 WIRING SIDE OF P.W.BOARD (9/9)

VOLTAGE (MD MAIN PWB)

Q1801

PIN NO.	VOLTAGE
E	5V
C	5V
B	43V

Q1802

PIN NO.	VOLTAGE
E	0V
C	0V
B	0.15V

Q1803

PIN NO.	VOLTAGE
E	0V
C	0V
B	3.1V

Q1807

PIN NO.	VOLTAGE
E	3.95V
C	3.2V
B	3.3V

Q1820

PIN NO.	VOLTAGE
E	3.2V
C	3.18V
B	2.4V

Q1821

PIN NO.	VOLTAGE
E	0V
C	0V
B	3.08V

Q1822

PIN NO.	VOLTAGE
E	0V
C	0V
B	0.1V

Q1451

PIN NO.	VOLTAGE
E	0V
C	3.18V
B	0.1V

Q1401

PIN NO.	VOLTAGE
E	3.2V
C	3.2V
B	0V

Q1402

PIN NO.	VOLTAGE
E	0V
C	0V
B	2.3V

Q1403

PIN NO.	VOLTAGE
E	3.18V
C	0V
B	3.15V

Q1404

PIN NO.	VOLTAGE
E	0V
C	3.15V
B	2.1V

Q1601

PIN NO.	VOLTAGE
E	5.45V
C	4.4V
B	4.8V

IC1801

PIN NO.	VOLTAGE
1	0V
2	44V
3	3.2V
4	3.1V
5	0V

IC1901

PIN NO.	VOLTAGE
1	5.5V
2	1.6V
3	0V
4	2.8V
5	5.5V

IC1907

PIN NO.	VOLTAGE
1	2.8V
2	2.6V
3	4.9V
4	2.6V
5	1.6V
6	0V
7	0V
8	4.9V
9	0V
10	2.2V
11	5V
12	5V
13	0V
14	3.2V
15	3.1V
16	5V

IC1990

PIN NO.	VOLTAGE
1	1.45V
2	1.7V
3	1.45V
4	1.7V
5	1.45V
6	1.7V
7	0V
8	1.7V
9	1.45V
10	1.37V
11	1.7V
12	1.37V
13	1.7V
14	3.17V

IC1101

PIN NO.	VOLTAGE
1	0.7V
2	0.7V
3	0.7V
4	0.7V
5	1.6V
6	1.6V
7	0.7V
8	1.6V
9	1.6V
10	1.6V
11	1.6V
12	1.6V
13	3.2V
14	3.2V
15	0V
16	Groove:3.2V Pit:0V
17	Low reflection:0V High reflection:3.2V
18	0V
19	0V
20	1.45V
21	3.2V
22	0V
23	0V
24	3.2V
25	1.78V
26	1.78V
27	1.35V
28	1.36V
29	1.6V
30	1.6V
31	1.6V
32	1.6V
33	1.6V
34	0V
35	1.6V
36	1.6V
37	0.3V
38	1.6V
39	1.6V
40	1.6V
41	1.6V
42	3.2V
43	0V
44	1V
45	1.6V
46	1.6V
47	0.7V
48	0.7V

IC1202

PIN NO.	VOLTAGE
1	1.1V
2	1.1V
3	3V
4	2V
5	1.5V
6	1.8V
7	0.8V
8	2.4V
9	1.2V
10	3.2V
11	1.2V
12	2.5V
13	1.3V
14	1.7V
15	1.3V
16	2.2V
17	2.4V
18	1.2V
19	1.1V
20	0V

IC1201

PIN NO.	VOLTAGE
1	1.48V
2	0V
3	1.6V
4	0V
5	1.36V
6	1.77V
7	1.6V
8	1.36V
9	1.77V
10	1.25V
11	1.6V
12	3.17V
13	0V
14	0V
15	0V
16	0V
17	1.45V
18	1.56V
19	1.62V
20	1.7V
21	1.5V
22	1.63V
23	1.53V
24	1.8V
25	1.4V
26	1.2V
27	2.5V
28	0.8V
29	1.8V
30	1.4V
31	3.2V
32	1.2V
33	2.5V
34	1.3V
35	1.7V
36	1.3V
37	2.2V
38	0V
39	2.4V
40	1.2V
41	1.1V
42	1.5V
43	2V
44	3V
45	1.1V
46	1.1V
47	0V
48	3V
49	1.56V
50	PLAY:0V REC:1.5V
51	58V
52	0V
53	0V
54	58V
55	0V
56	0V
57	3.2V
58	3.2V
59	3.2V
60	3.17V
61	0V
62	3.17V
63	0V
64	1.3V
65	1.3V
66	DIC input:1.58V Other:0V
67	1.58V
68	3.17V
69	0V
70	1.5V
71	1.55V
72	1.5V
73	0V
74	1V
75	1.55V
76	1.8V
77	1.56V
78	0V
79	0V
80	3.16V
81	0V
82	0V
83	0V
84	1.5V
85	1.5V
86	3.1V
87	3.17V
88	0V
89	3.17V
90	0.5V
91	0.6V
92	0.4V
93	0.4V
94	0.4V
95	0.9V
96	0.7V
97	0.8V
98	3.16V
99	3.15V
100	0V

IC1401

PIN NO.	VOLTAGE
1	0V
2	0V
3	0.2V
4	3.2V
5	0V
6	0V
7	3.1V
8	0V
9	0V
10	0V
11	0V
12	3.18V
13	144V
14	0V
15	1.5V
16	3.2V
17	3.2V
18	3.1V
19	0V
20	0V
21	0V
22	3.15V
23	3.2V
24	0V
25	3.2V
26	3.2V
27	0V
28	0V
29	2V
30	3.2V
31	0V
32	3.2V
33	0V
34	0.8V
35	2.2V
36	0.2V
37	2.3V
38	0V
39	PLAY:3.15V REC:0V
40	0V
41	0V
42	0V
43	3.2V
44	0V
45	0V
46	3.15V
47	0V
48	0V
49	0V
50	0V
51	0V
52	0V
53	0V
54	0V
55	0V
56	0V
57	0V
58	0V
59	3.2V
60	0V
61	3.2V
62	3.2V
63	0V
64	0V
65	3.2V
66	3.2V
67	3.2V
68	0V
69	0V
70	3.1V
71	0V
72	3.1V
73	97A:0V 97B:3.2V
74	0V
75	3.2V
76	3.2V
77	0V
78	0V
79	0V
80	3.15V
81	0V
82	0V
83	3.2V
84	3.2V
85	3.2V
86	3.2V
87	3.2V
88	3.2V
89	1.7V
90	1.8V
91	1.8V
92	1.4V
93	Low reflectio:2.2V High reflection:0.1V
94	3.2V
95	3.2V
96	0V
97	2V
98	3.2V
99	3.2V
100	0V

IC1601

PIN NO.	VOLTAGE
1	1.25V
2	4V
3	1.5V
4	5.5V
5	5.5V
6	1.5V
7	5V
8	2.7V
9	2.8V
10	0V
11	0V
12	2.7V
13	2.76V
14	1.6V
15	1.6V
16	1.6V
17	3.15V
18	3.15V
19	0V
20	1.6V
21	1.6V
22	1.6V
23	1.23V
24	1.23V
25	1.6V
26	1.6V
27	1.62V
28	2.7V
29	2.8V
30	2.7V
31	2.7V
32	0V
33	0V
34	3.0V
35	2.4V
36	0V
37	1.64V
38	5.5V
39	5.5V
40	1.64V
41	1.68V
42	1.68V

IC1251

PIN NO.	VOLTAGE
1	2.6V
2	2.6V
3	0.1V
4	2.6V
5	2.6V
6	0.1V
7	0V
8	1.56V
9	0.1V
10	2.6V
11	1.56V
12	0.1V
13	2.6V
14	5.2V

Q1251

PIN NO.	VOLTAGE
D	4.4V
S	1.4V
G	2.6V

Q1252

PIN NO.	VOLTAGE
D	4.4V
S	1.4V
G	2.6V

Q1253

PIN NO.	VOLTAGE
D	15V
S	0V
G	2.6V

Q1254

PIN NO.	VOLTAGE
D	15V
S	0V
G	2.6V

IC1916

PIN NO.	VOLTAGE
1	1.58V
2	3.2V
3	1.58V
4	3.2V
5	DIC input:2.2V Other:0V
6	DIC input:1.58V Other:0V
7	1.55V
8	2.2V
9	3.2V
10	3.2V
11	97A:3.2V 97B:1V
12	97A:3.2V 97A:0.9V

Q1804

PIN NO.	VOLTAGE
E	5.4V
C	5.4V
B	4.8V

Q1805

PIN NO.	VOLTAGE
E	0V
C	0.7V
B	3.1V

Q1701

PIN NO.	VOLTAGE
E	3.2V
C	5.4V
B	3.85V

IC1802

PIN NO.	VOLTAGE
1	2.46V
2	0V
3	3.85V

IC1701

PIN NO.	VOLTAGE
1	0V
2	3.2V
3	1.4V
4	1.5V
5	1.4V
6	0V
7	3.2V
8	0V
9	0V
10	3.2V
11	0V
12	1.5V
13	3.17V
14	3.17V
15	3.17V
16	1.55V
17	3.17V
18	0V
19	1V
20	0V
21	0V
22	0V
23	3.2V
24	1.57V
25	3.2V
26	1.57V
27	0V
28	1.6V

IC1402

PIN NO.	VOLTAGE
1	0V
2	3.2V
3	3.2V
4	3.2V
5	0V
6	0V
7	0V
8	0V

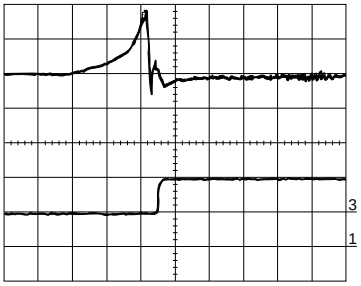
WAVEFORMS OF CD CIRCUIT (CD SECTION)

STOP → PLAY

FOCUS — SERCH

❶ 5ms 0.50 V IC1 (20) F.E

❷ 5ms 5.0 V IC1 (54) DRF

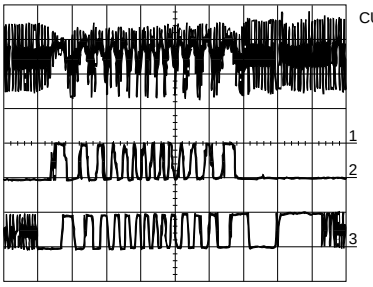


❸ 0.5ms 1.00 V HF

❹ 0.5ms 5.0 V HFL

❺ 0.5ms 5.0 V TES

CUE

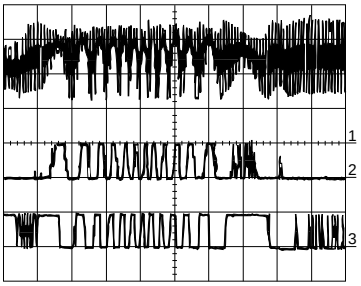


❸ 0.5ms 1.00 V HF

❹ 0.5ms 5.0 V HFL

❺ 0.5ms 5.0 V TES

REVIEW



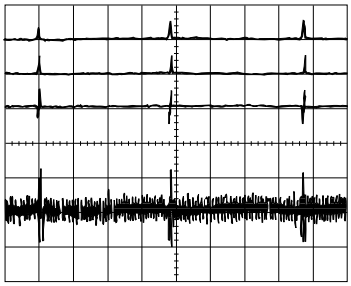
❻ 50ms 10.0 V JP+

❼ 50ms 10.0 V JP-

❽ 50ms 0.50 V JP

❾ 50ms 1.00 V TE

CUE

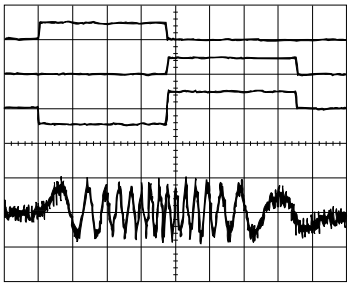


❻ 0.5ms 10.0 V JP+

❼ 0.5ms 10.0 V JP-

❽ 0.5ms 0.50 V JP

❾ 0.5ms 1.00 V TE



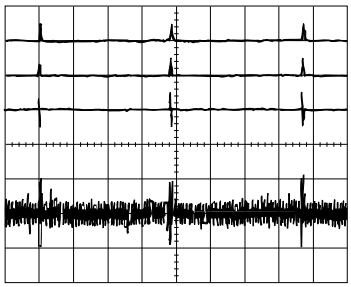
❻ 50ms 10.0 V JP+

❼ 50ms 10.0 V JP-

❽ 50ms 0.50 V JP

❾ 50ms 1.00 V TE

REVIEW

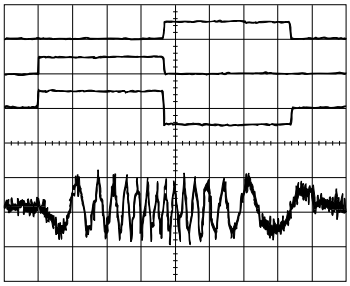


❻ 0.5ms 10.0 V JP+

❼ 0.5ms 10.0 V JP-

❽ 0.5ms 0.50 V JP

❾ 0.5ms 1.00 V TE

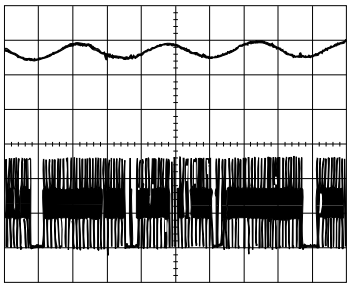


NORMAL DISC
TN0=01

❿ 20ms 1.00 V SPO

⓫ 20ms 2.00 V CLV+

PLAY

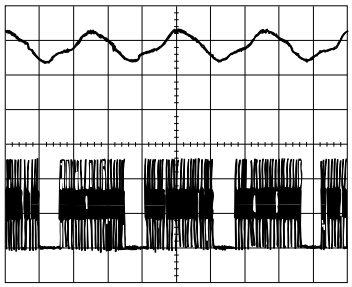


TCD-712 (140mm)
TN0=01

❿ 50ms 1.00 V SPO

⓫ 50ms 2.00 V CLV+

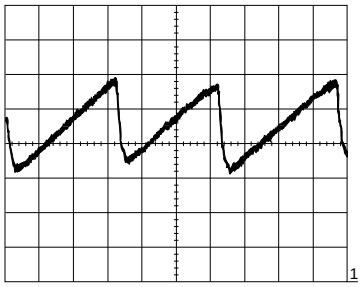
PLAY



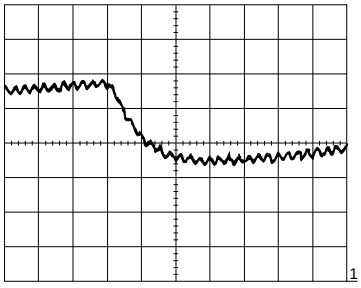
TCD-712

⓬ 5s 100mV SLD

PLAY

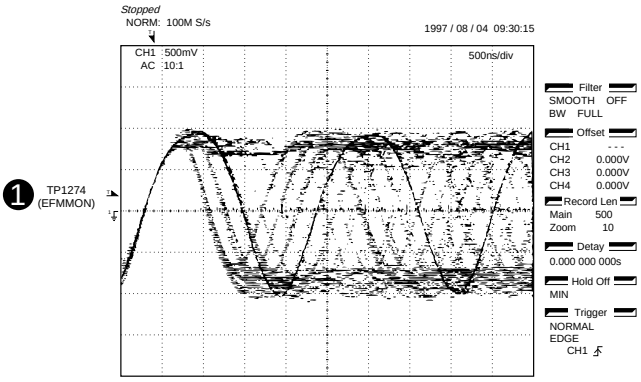


⓬ 0.5s 100mV SLD

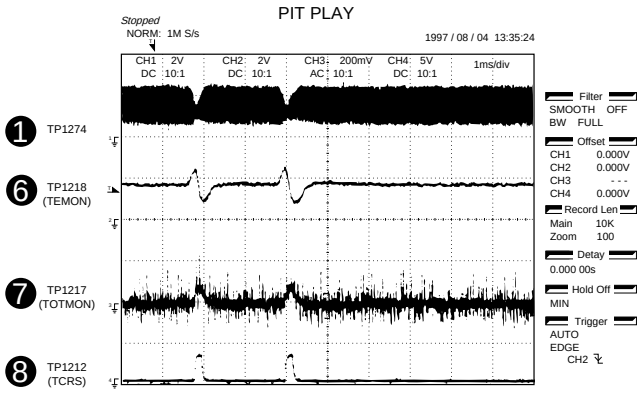


WAVEFORMS OF MD CIRCUIT (MD SECTION)

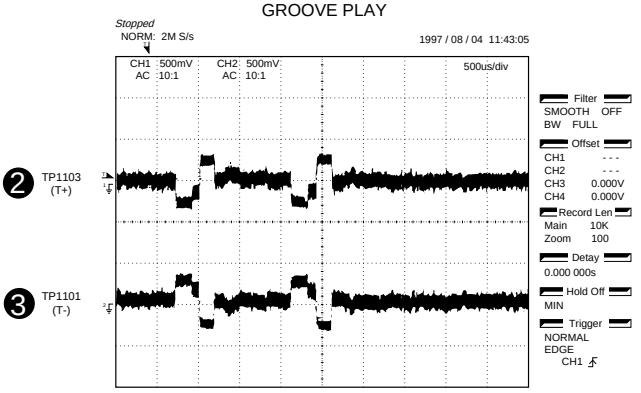
PLAY STATE



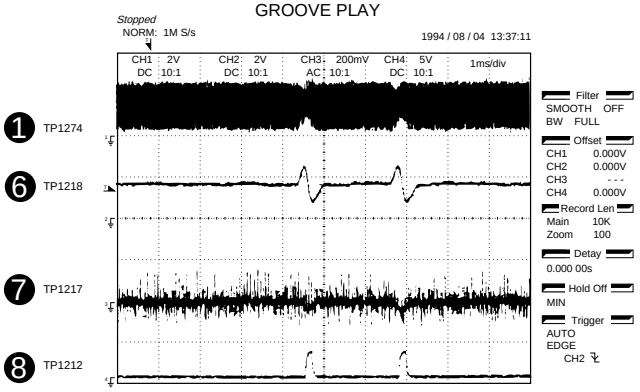
PIT PLAY



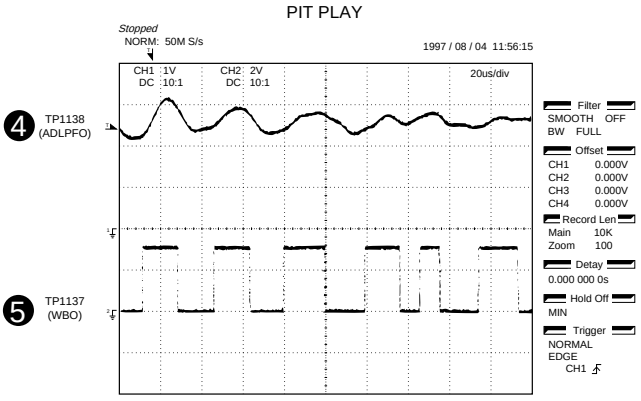
GROOVE PLAY


Stopped
NORM: 2M S/s
1997 / 08 / 04 11:43:05
CH1 500mV AC 10:1
CH2 500mV AC 10:1
500us/div
2 TP1103 (T+)
3 TP1101 (T-)
Filter SMOOTH OFF BW FULL
Offset CH1 - - - CH2 - - - CH3 0.000V CH4 0.000V
Record Len Main 10K Zoom 100
Detay 0.000 000s
Hold Off MIN
Trigger NORMAL EDGE CH1

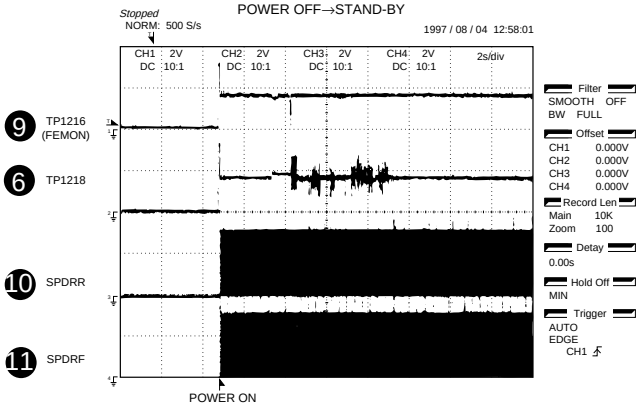
GROOVE PLAY



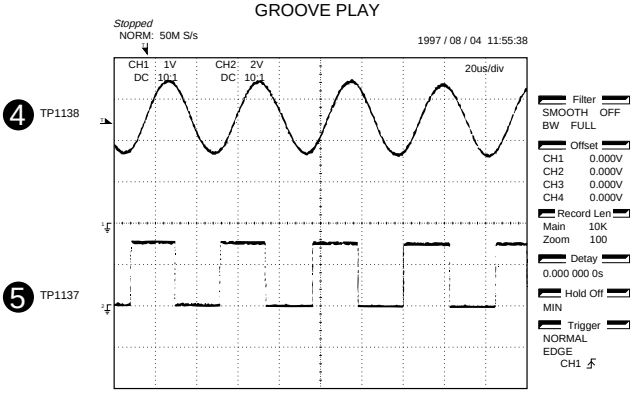
PIT PLAY


Stopped
NORM: 50M S/s
1997 / 08 / 04 11:56:15
CH1 1V DC 10:1
CH2 2V DC 10:1
20us/div
4 TP1138 (ADLPFO)
5 TP1137 (WBO)
Filter SMOOTH OFF BW FULL
Offset CH1 0.000V CH2 0.000V CH3 0.000V CH4 0.000V
Record Len Main 10K Zoom 100
Detay 0.000 000 0s
Hold Off MIN
Trigger NORMAL EDGE CH1

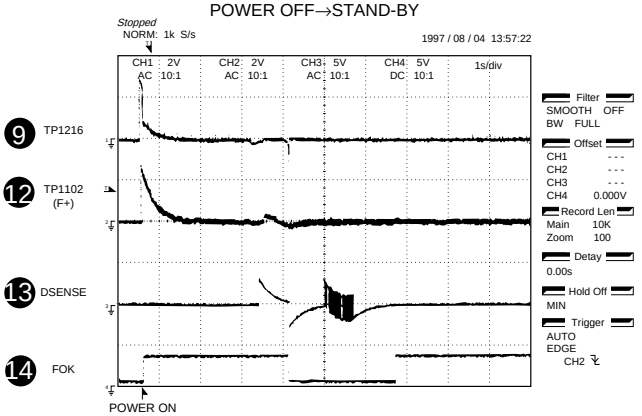
POWER OFF→STAND-BY

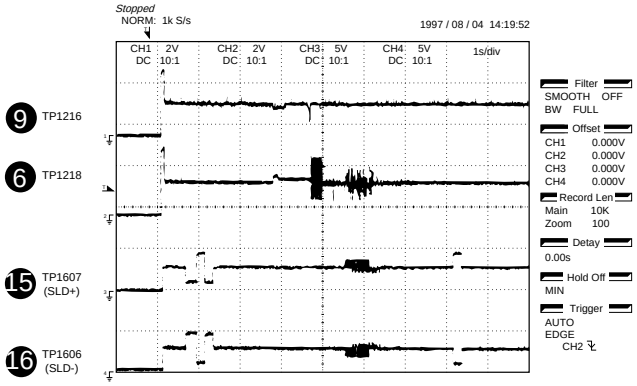


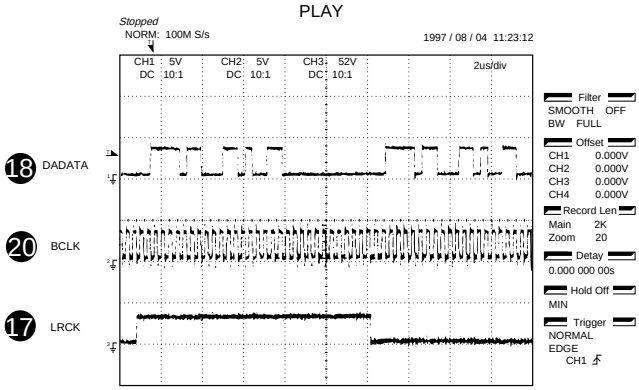
GROOVE PLAY

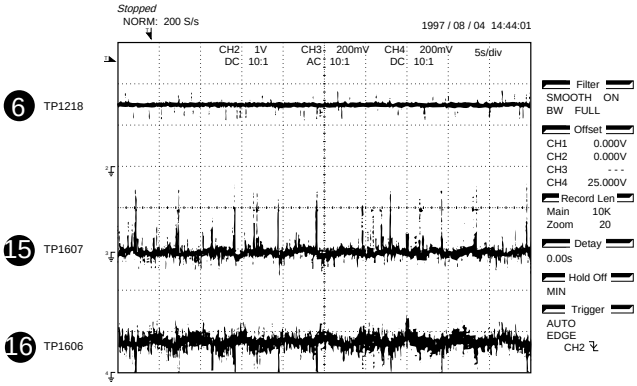


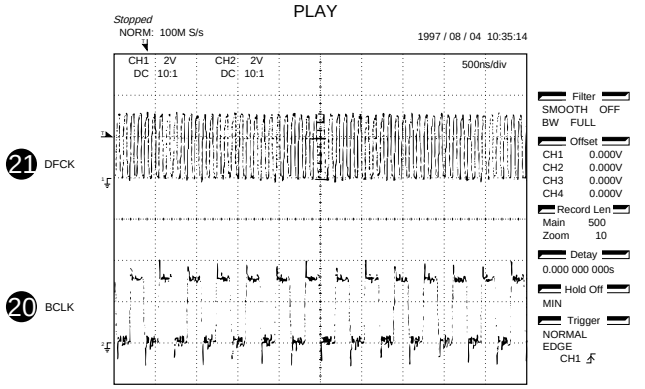
POWER OFF→STAND-BY

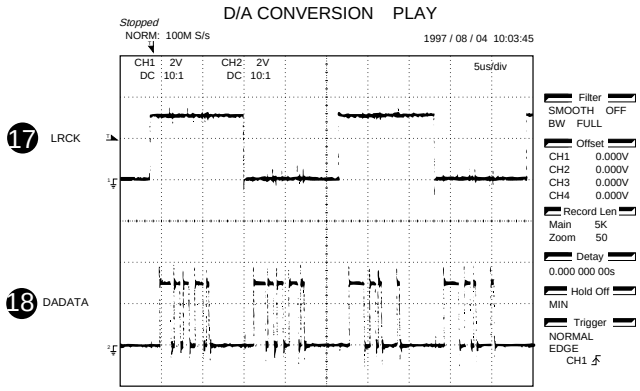


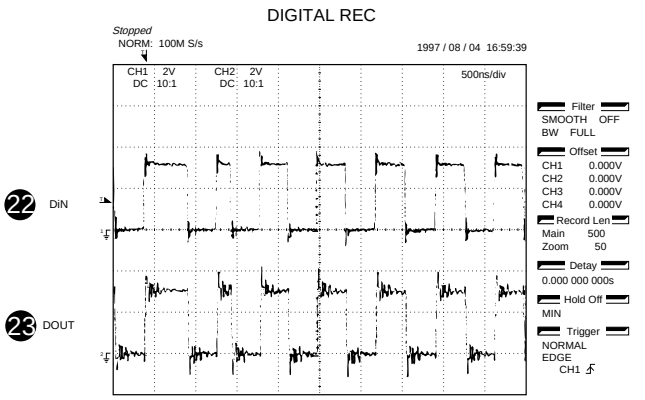

Stopped
NORM: 1k S/s
1997 / 08 / 04 14:19:52
CH1 2V DC 10:1
CH2 2V DC 10:1
CH3 5V DC 10:1
CH4 5V DC 10:1
1s/div
9 TP1216
6 TP1218
15 TP1607 (SLD+)
16 TP1606 (SLD-)
Filter SMOOTH OFF BW FULL
Offset CH1 0.000V CH2 0.000V CH3 0.000V CH4 0.000V
Record Len Main 10K Zoom 100
Detay 0.00s
Hold Off MIN
Trigger AUTO EDGE CH2

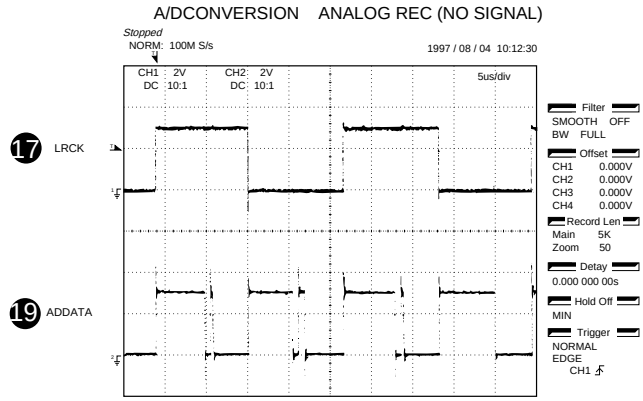

PLAY
Stopped
NORM: 100M S/s
1997 / 08 / 04 11:23:12
CH1 5V DC 10:1
CH2 5V DC 10:1
CH3 52V DC 10:1
2us/div
18 DADATA
20 BCLK
17 LRCK
Filter SMOOTH OFF BW FULL
Offset CH1 0.000V CH2 0.000V CH3 0.000V CH4 0.000V
Record Len Main 2K Zoom 20
Detay 0.000 000 00s
Hold Off MIN
Trigger NORMAL EDGE CH1

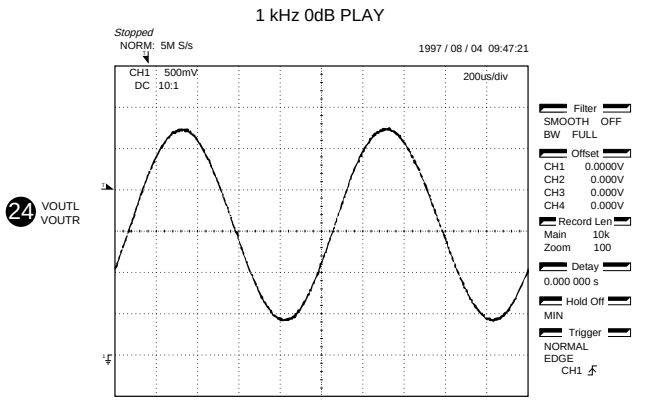

Stopped
NORM: 200 S/s
1997 / 08 / 04 14:44:01
CH2 1V DC 10:1
CH3 200mV AC 10:1
CH4 200mV DC 10:1
5s/div
6 TP1218
15 TP1607
16 TP1606
Filter SMOOTH ON BW FULL
Offset CH1 0.000V CH2 0.000V CH3 - - - CH4 25.000V
Record Len Main 10K Zoom 20
Detay 0.00s
Hold Off MIN
Trigger AUTO EDGE CH2


PLAY
Stopped
NORM: 100M S/s
1997 / 08 / 04 10:35:14
CH1 2V DC 10:1
CH2 2V DC 10:1
500ns/div
21 DFCK
20 BCLK
Filter SMOOTH OFF BW FULL
Offset CH1 0.000V CH2 0.000V CH3 0.000V CH4 0.000V
Record Len Main 500 Zoom 10
Detay 0.000 000 000s
Hold Off MIN
Trigger NORMAL EDGE CH1


D/A CONVERSION PLAY
Stopped
NORM: 100M S/s
1997 / 08 / 04 10:03:45
CH1 2V DC 10:1
CH2 2V DC 10:1
5us/div
17 LRCK
18 DADATA
Filter SMOOTH OFF BW FULL
Offset CH1 0.000V CH2 0.000V CH3 0.000V CH4 0.000V
Record Len Main 5K Zoom 50
Detay 0.000 000 00s
Hold Off MIN
Trigger NORMAL EDGE CH1


DIGITAL REC
Stopped
NORM: 100M S/s
1997 / 08 / 04 16:59:39
CH1 2V DC 10:1
CH2 2V DC 10:1
500ns/div
22 DiN
23 DOUT
Filter SMOOTH OFF BW FULL
Offset CH1 0.000V CH2 0.000V CH3 0.000V CH4 0.000V
Record Len Main 500 Zoom 50
Detay 0.000 000 000s
Hold Off MIN
Trigger NORMAL EDGE CH1


A/DCONVERSION ANALOG REC (NO SIGNAL)
Stopped
NORM: 100M S/s
1997 / 08 / 04 10:12:30
CH1 2V DC 10:1
CH2 2V DC 10:1
5us/div
17 LRCK
19 ADDATA
Filter SMOOTH OFF BW FULL
Offset CH1 0.000V CH2 0.000V CH3 0.000V CH4 0.000V
Record Len Main 5K Zoom 50
Detay 0.000 000 00s
Hold Off MIN
Trigger NORMAL EDGE CH1


1 kHz 0dB PLAY
Stopped
NORM: 5M S/s
1997 / 08 / 04 09:47:21
CH1 500mV DC 10:1
200us/div
24 VOUTL VOUTR
Filter SMOOTH OFF BW FULL
Offset CH1 0.0000V CH2 0.000V CH3 0.000V CH4 0.000V
Record Len Main 10k Zoom 100
Detay 0.000 000 s
Hold Off MIN
Trigger NORMAL EDGE CH1

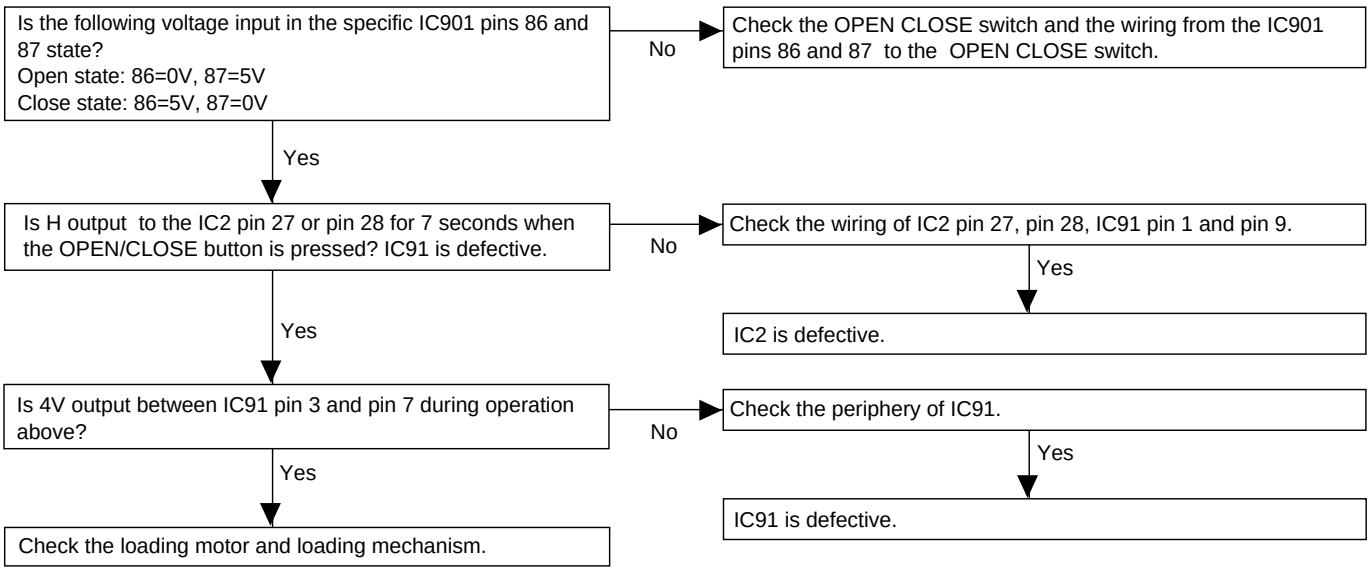
TROUBLESHOOTING (CD SECTION)

When the CD does not function

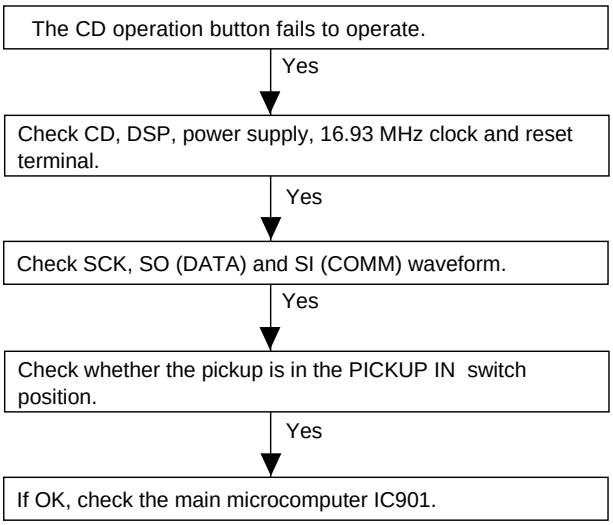
When the CD section does not operate When the objective lens of the optical pickup is dirty,this section may not operate.Clean the objective lens,and check the playback operation.When this section does not operate even after the above step is taken,check the following items.
Remove the cabinet and follow the troubleshooting instructions.
"Track skipping and/or no TOC(Table Of Contents) may be caused by build up of dust other foreign matter on the laser pickup lens. Before attempting any adjustment make certain that the lens is clean. If not, clean it as mentioned below."

Turn the power off.
Gently clean the lens with a lens cleaning tissue and a small amount of isopropyl alcohol.
Do not touch the lens with the bare hand.

• The CD tray cannot be opened or closed.


Is the following voltage input in the specific IC901 pins 86 and 87 state?
Open state: 86=0V, 87=5V
Close state: 86=5V, 87=0V
No
Check the OPEN CLOSE switch and the wiring from the IC901 pins 86 and 87 to the OPEN CLOSE switch.
Yes
Is H output to the IC2 pin 27 or pin 28 for 7 seconds when the OPEN/CLOSE button is pressed? IC91 is defective.
No
Check the wiring of IC2 pin 27, pin 28, IC91 pin 1 and pin 9.
Yes
IC2 is defective.
Yes
Is 4V output between IC91 pin 3 and pin 7 during operation above?
No
Check the periphery of IC91.
Yes
IC91 is defective.
Yes
Check the loading motor and loading mechanism.

• The CD function does not operate.


The CD operation button fails to operate.
Yes
Check CD, DSP, power supply, 16.93 MHz clock and reset terminal.
Yes
Check SCK, SO (DATA) and SI (COMM) waveform.
Yes
Check whether the pickup is in the PICKUP IN switch position.
Yes
If OK, check the main microcomputer IC901.

• The CD operation button operates.

Check the FOCUS-HF system.

Playback is enabled without disc.

Yes

Does the pickup move up and down two times? — No → Focus search OK

Yes

Is the output waveform of IC1 pin 16 (FD) identical with that shown in Figure 70-1? — No → Check the IC5 to CNP2 and periphery.

Yes

Check the IC1 pin 50 (CLK) line, 4 MHz, and check microcomputer dataon pin 51 (CL), pin 52 (DAT) and pin 53 (CE).

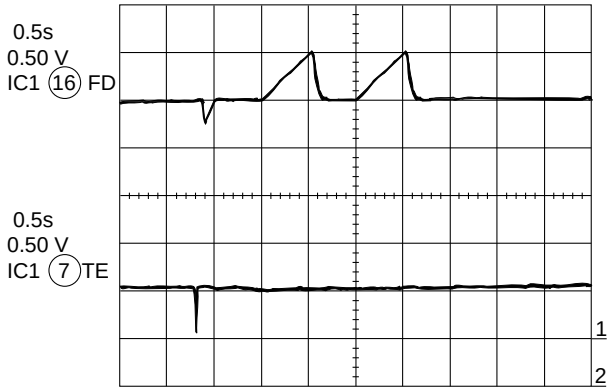


Figure 70-1

• Playback is enabled only when disc is loaded.

Does the focus servo operate? (Is operation audible?) — No → Check the laser diode driver. Check the periphery from IC1 pin 16 to pin 21 (focus servo circuit).

Yes

Does DRF signal change from "L" to "H"? — No → If disc is not rotating, DRF must not change to "H". — Yes → Check the spindle system.

Yes

Is HF waveform normal? (See Figure 70-2 and Figure 70-3.) — No → Level error — Yes → Check the periphery of IC1 pin 41 and pin 42.

Yes

Check the tracking system.

No → Waveform is unstable. — Yes → Check the spindle system.

HF
1.0V/DIV
0.5µsec/DIV(DC)
(When playing back the disc)

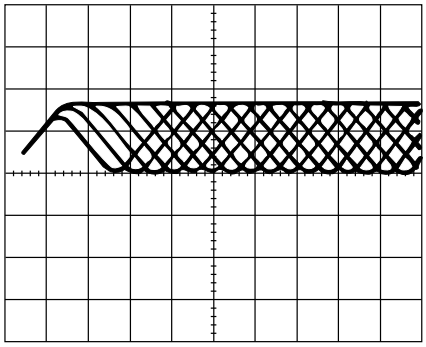


Figure 70-2

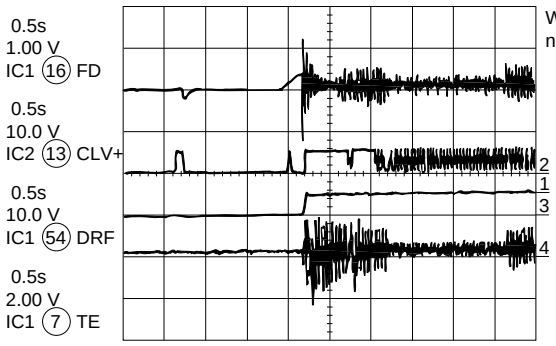
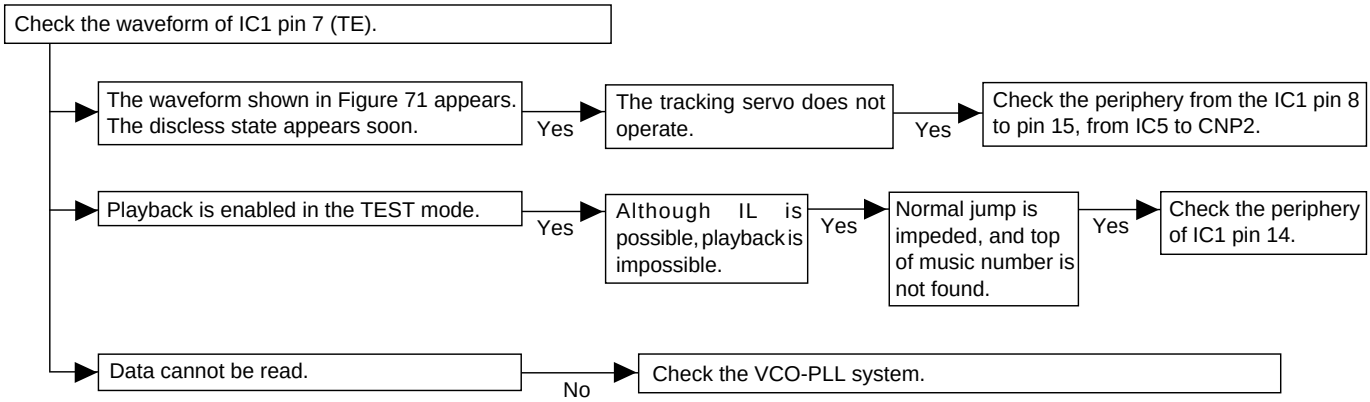


Figure 70-3

• Check the tracking system.


Check the waveform of IC1 pin 7 (TE).
The waveform shown in Figure 71 appears. The discless state appears soon.
Yes
The tracking servo does not operate.
Yes
Check the periphery from the IC1 pin 8 to pin 15, from IC5 to CNP2.
Playback is enabled in the TEST mode.
Yes
Although IL is possible, playback is impossible.
Yes
Normal jump is impeded, and top of music number is not found.
Yes
Check the periphery of IC1 pin 14.
Data cannot be read.
No
Check the VCO-PLL system.

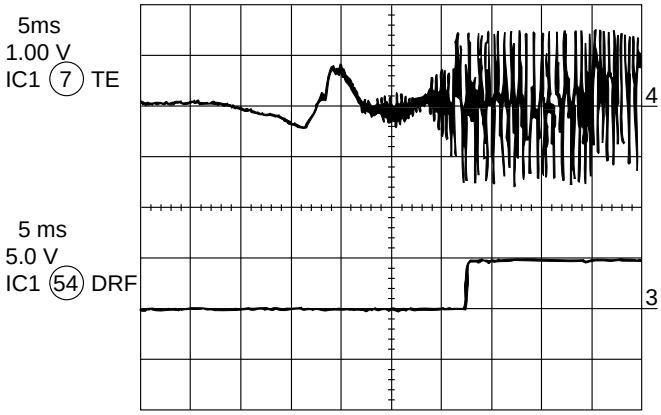
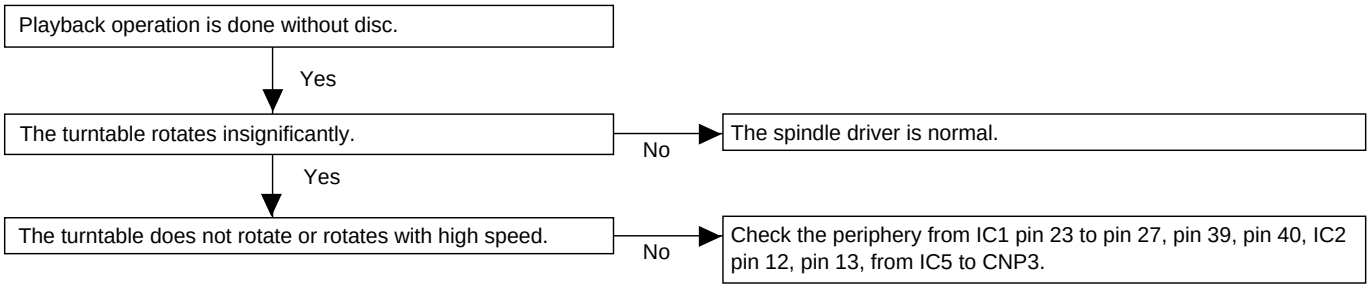


Figure 71

• Check the spindle system


Playback operation is done without disc.
Yes
The turntable rotates insignificantly.
No
The spindle driver is normal.
Yes
The turntable does not rotate or rotates with high speed.
No
Check the periphery from IC1 pin 23 to pin 27, pin 39, pin 40, IC2 pin 12, pin 13, from IC5 to CNP3.

• Check the VCO-PLL system.

Playback operation is performed when disc exists.

Yes

Although the HF waveform is normal, the TOC data cannot be read.

No

Check the PDD waveform. (Figure 72)

Abnormal

Check the IC1 pin 43, pin 44, IC2 pin 3, pin 5, pin 7, pin 10, and pin 11.

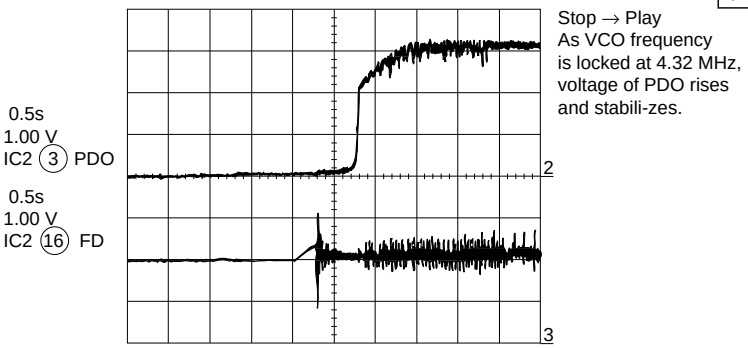


Figure 72

• The HF waveform is normal and time indication is also normal, but sound is not output.

Check the IC2 pin 48 (EFLG).

No

Usually, the number of pulses of normal disc is 100 pulses/sec or less.

Yes

Check the IC2 pin 37 and pin 40.

Yes

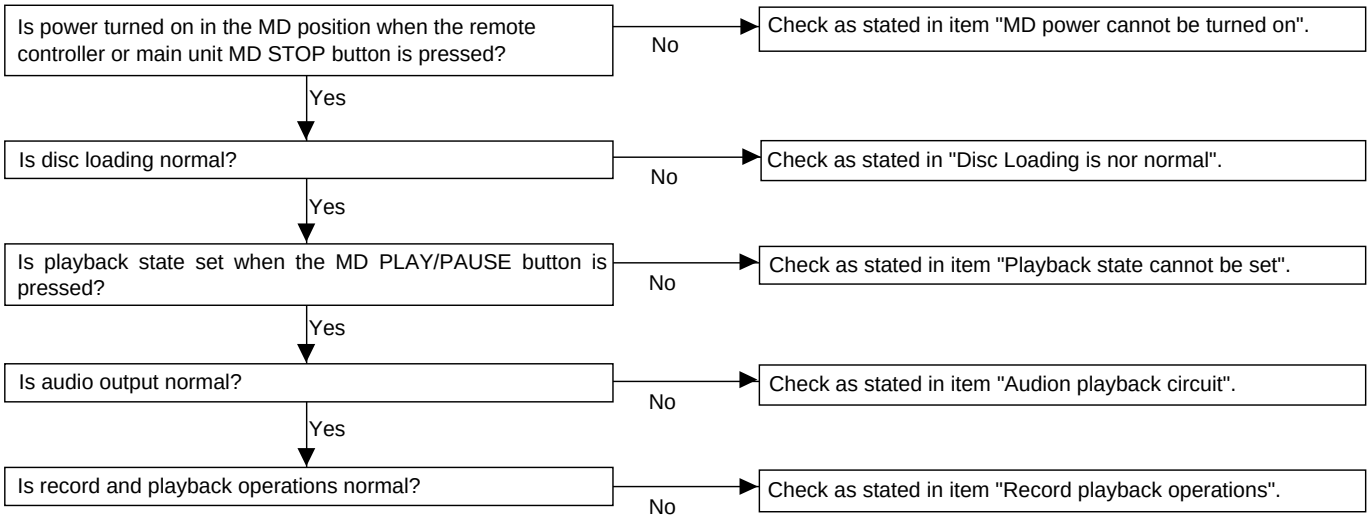
Check IC401 and power amplifier IC801.

TROUBLE SHOOTING (MD SECTION)

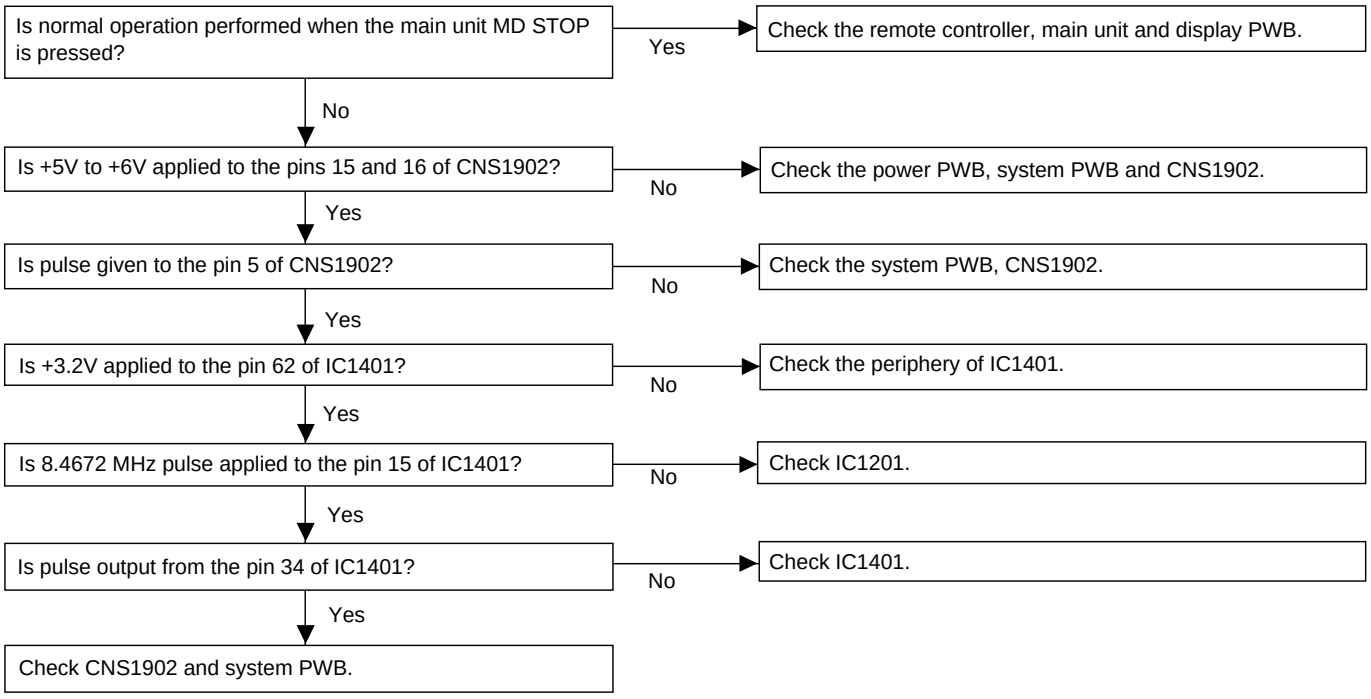
When MD fails to operate

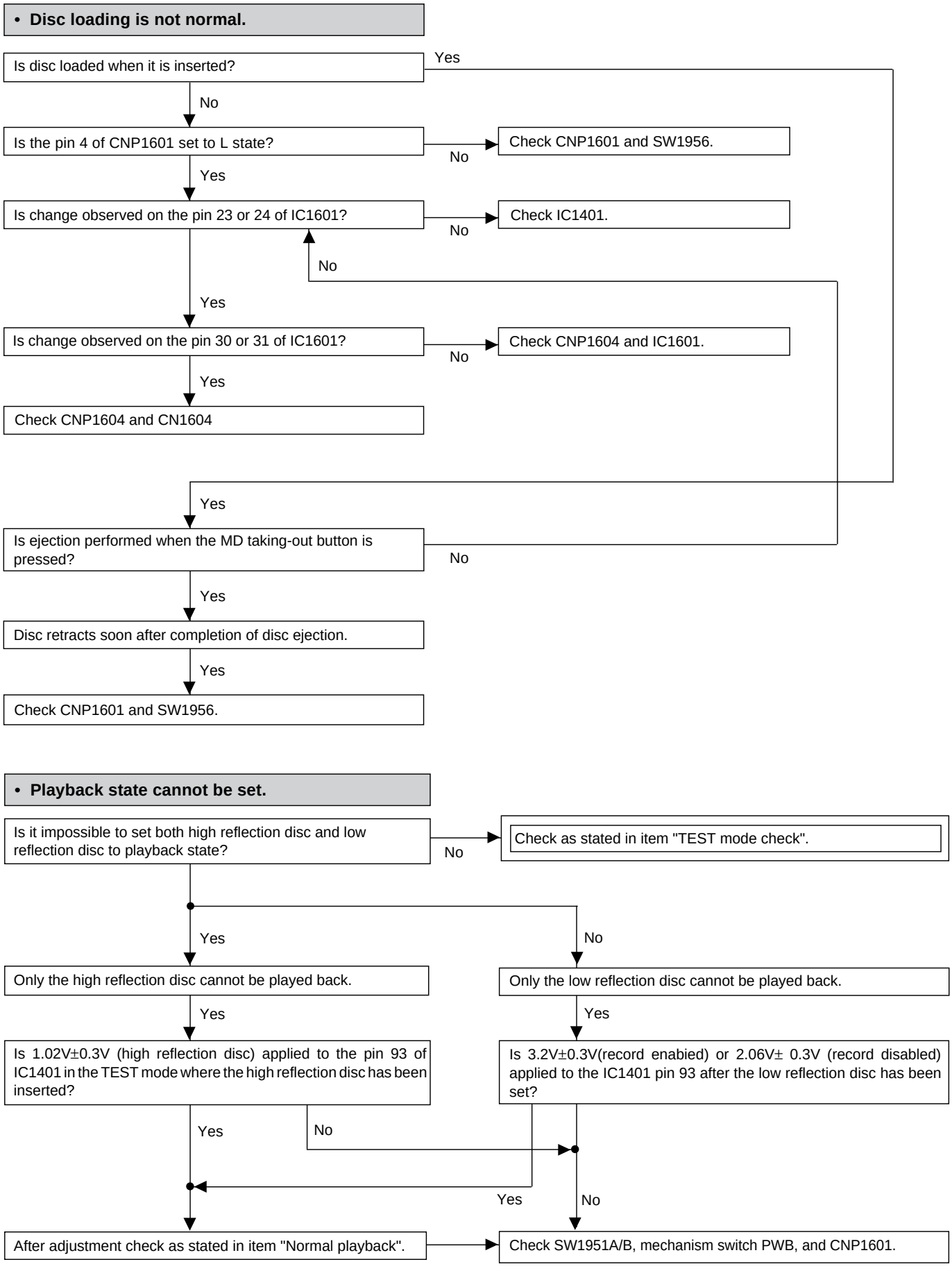
If the objective lens of optical pickup is contaminated, MD may fail to operate. At first, clean the objective lens to check playback operation. If MD fails persistently to operate, perform checks as follows.
If dust or foreign substance is accumulated on the pickup lens, playback is disturbed and indication of TOC (content of tracks) may be disabled. Before adjusting check that the lens is clean. If the lens is contaminated, treat it as follows.

Turn off power supply, impregnate the lens cleaning paper with a small quantity of isopropyl alcohol, and gently wipe the lens with it with due care so that the lens is not damaged. At this time do not touch the lens directly with your finger.


Is power turned on in the MD position when the remote controller or main unit MD STOP button is pressed?
No
Check as stated in item "MD power cannot be turned on".
Yes
Is disc loading normal?
No
Check as stated in "Disc Loading is nor normal".
Yes
Is playback state set when the MD PLAY/PAUSE button is pressed?
No
Check as stated in item "Playback state cannot be set".
Yes
Is audio output normal?
No
Check as stated in item "Audion playback circuit".
Yes
Is record and playback operations normal?
No
Check as stated in item "Record playback operations".

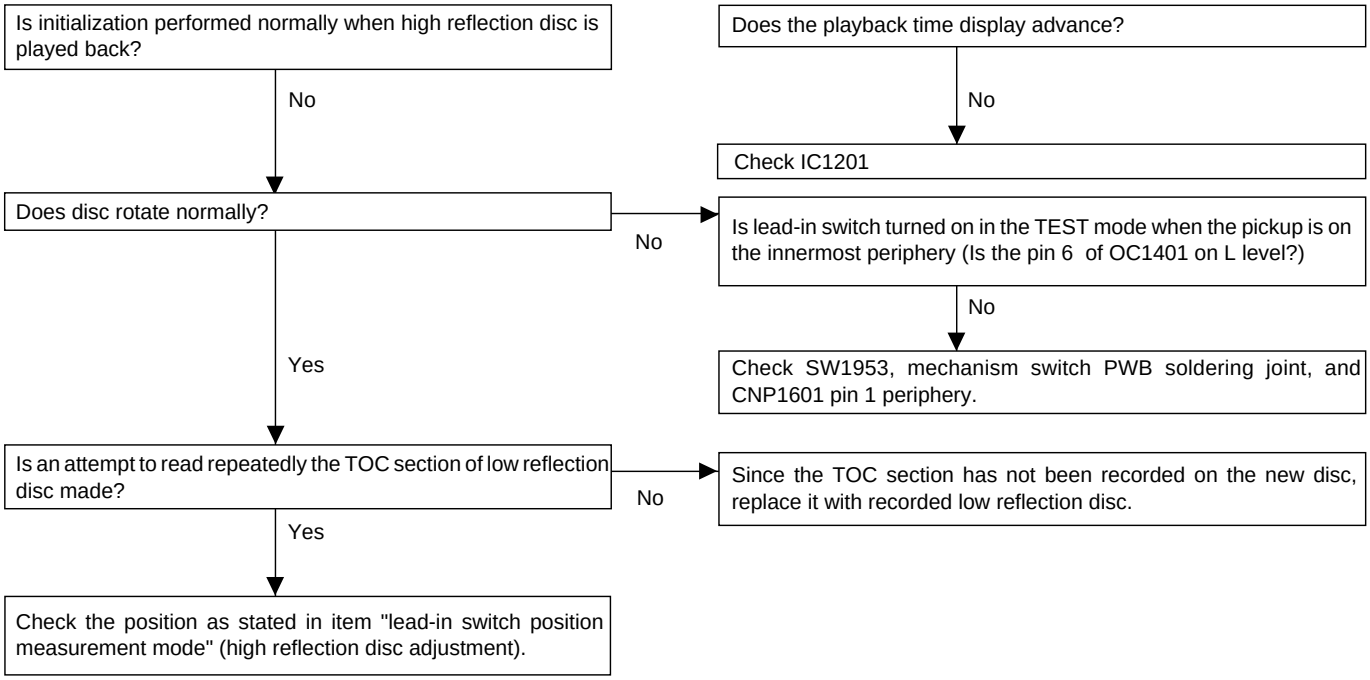
• MD power cannot be turned on.


Is normal operation performed when the main unit MD STOP is pressed?
Yes
Check the remote controller, main unit and display PWB.
No
Is +5V to +6V applied to the pins 15 and 16 of CNS1902?
No
Check the power PWB, system PWB and CNS1902.
Yes
Is pulse given to the pin 5 of CNS1902?
No
Check the system PWB, CNS1902.
Yes
Is +3.2V applied to the pin 62 of IC1401?
No
Check the periphery of IC1401.
Yes
Is 8.4672 MHz pulse applied to the pin 15 of IC1401?
No
Check IC1201.
Yes
Is pulse output from the pin 34 of IC1401?
No
Check IC1401.
Yes
Check CNS1902 and system PWB.


• Disc loading is not normal.
Is disc loaded when it is inserted?
Yes
No
Is the pin 4 of CNP1601 set to L state?
No
Check CNP1601 and SW1956.
Yes
Is change observed on the pin 23 or 24 of IC1601?
No
Check IC1401.
No
Yes
Is change observed on the pin 30 or 31 of IC1601?
No
Check CNP1604 and IC1601.
Yes
Check CNP1604 and CN1604
Yes
Is ejection performed when the MD taking-out button is pressed?
No
Yes
Disc retracts soon after completion of disc ejection.
Yes
Check CNP1601 and SW1956.
• Playback state cannot be set.
Is it impossible to set both high reflection disc and low reflection disc to playback state?
No
Check as stated in item "TEST mode check".
Yes
No
Only the high reflection disc cannot be played back.
Only the low reflection disc cannot be played back.
Yes
Yes
Is 1.02V±0.3V (high reflection disc) applied to the pin 93 of IC1401 in the TEST mode where the high reflection disc has been inserted?
Is 3.2V±0.3V(record enabied) or 2.06V± 0.3V (record disabled) applied to the IC1401 pin 93 after the low reflection disc has been set?
Yes
No
Yes
No
After adjustment check as stated in item "Normal playback".
Check SW1951A/B, mechanism switch PWB, and CNP1601.

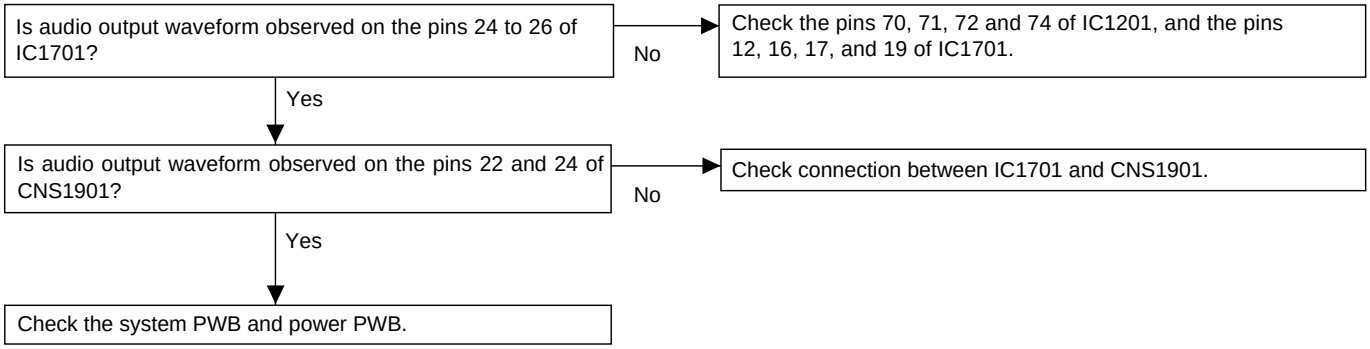
• Normal playback

When it has been confirmed that EEPROM value is normal in the TEST mode


Is initialization performed normally when high reflection disc is played back?
No
Does disc rotate normally?
No
Does the playback time display advance?
No
Check IC1201
Is lead-in switch turned on in the TEST mode when the pickup is on the innermost periphery (Is the pin 6 of OC1401 on L level?)
No
Check SW1953, mechanism switch PWB soldering joint, and CNP1601 pin 1 periphery.
Yes
Is an attempt to read repeatedly the TOC section of low reflection disc made?
No
Since the TOC section has not been recorded on the new disc, replace it with recorded low reflection disc.
Yes
Check the position as stated in item "lead-in switch position measurement mode" (high reflection disc adjustment).

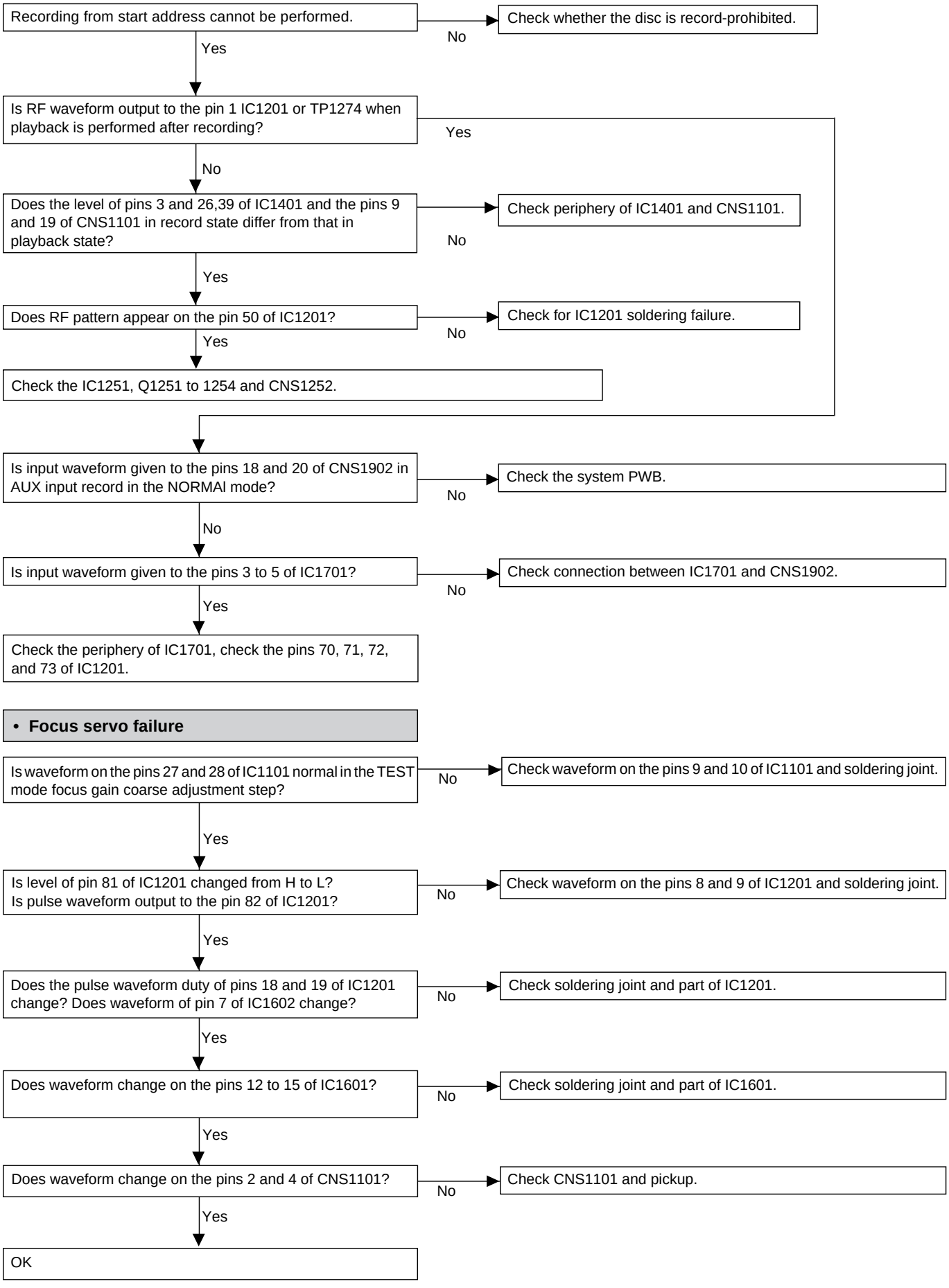
• Audio playback circuit

When sound is not output although the playback time display advances during playback in the normal mode.


Is audio output waveform observed on the pins 24 to 26 of IC1701?
No
Check the pins 70, 71, 72 and 74 of IC1201, and the pins 12, 16, 17, and 19 of IC1701.
Yes
Is audio output waveform observed on the pins 22 and 24 of CNS1901?
No
Check connection between IC1701 and CNS1901.
Yes
Check the system PWB and power PWB.

• Record and playback operation

Insert the low reflection disc, and after verifying the audio output in the normal mode playback set the record/playback TEST mode


Recording from start address cannot be performed.
No
Check whether the disc is record-prohibited.
Yes
Is RF waveform output to the pin 1 IC1201 or TP1274 when playback is performed after recording?
Yes
No
Does the level of pins 3 and 26,39 of IC1401 and the pins 9 and 19 of CNS1101 in record state differ from that in playback state?
Check periphery of IC1401 and CNS1101.
No
Yes
Does RF pattern appear on the pin 50 of IC1201?
Check for IC1201 soldering failure.
No
Yes
Check the IC1251, Q1251 to 1254 and CNS1252.
Is input waveform given to the pins 18 and 20 of CNS1902 in AUX input record in the NORMAl mode?
Check the system PWB.
No
No
Is input waveform given to the pins 3 to 5 of IC1701?
Check connection between IC1701 and CNS1902.
No
Yes
Check the periphery of IC1701, check the pins 70, 71, 72, and 73 of IC1201.

• Focus servo failure

Is waveform on the pins 27 and 28 of IC1101 normal in the TEST mode focus gain coarse adjustment step?
No
Check waveform on the pins 9 and 10 of IC1101 and soldering joint.
Yes
Is level of pin 81 of IC1201 changed from H to L?
Is pulse waveform output to the pin 82 of IC1201?
No
Check waveform on the pins 8 and 9 of IC1201 and soldering joint.
Yes
Does the pulse waveform duty of pins 18 and 19 of IC1201 change? Does waveform of pin 7 of IC1602 change?
No
Check soldering joint and part of IC1201.
Yes
Does waveform change on the pins 12 to 15 of IC1601?
No
Check soldering joint and part of IC1601.
Yes
Does waveform change on the pins 2 and 4 of CNS1101?
No
Check CNS1101 and pickup.
Yes
OK

• Disc motor fails to run

Does waveform appear on the pins 24 and 25 of IC1201 in the TEST mode focus gain coarse adjustment step?
- No → Check soldering joint and parts of pins 24 and 25 of IC1201, and peripheral circuit.
- Yes ↓

Does waveform appear on the pins 34 and 35 of IC1601, pins 1 and 2 of CNP1603?
- No → Check soldering joint of PWB of completed IC1601 and CNP1601 disc motor.
- Yes ↓

Replace the completed disc motor.

• Tracking servo failure

Does waveform appear on the pins 8 and 9 of IC1601, and pins 1 and 3 of CNS1101 in the TEST mode focus gain adjustment step?
- No → Check the soldering joint of pins 20 and 21 of IC1201, IC1601, IC1601, CNS1101.
- Yes ↓

Replace the optical pickup.

• Slide servo failure

Does the pickup move to external and internal periphery when the ►► or ◄◄ button is pressed in the TEST mode?
- Yes → Check the waveform on the pins 22 and 23 of IC1201, check the peripheral parts and soldering joint.
- No ↓

Is there any change on the pins 22 and 23 of IC1201 when the ►► or ◄◄ button is pressed?
- No → Check the waveform on the pins 22 and 23 of IC1201, check the peripheral parts and soldering joint.
- Yes ↓

Is there any change on the pins 28 and 29 of IC1601, and the pins 1 and 2 of CNP1602 when the►► or ◄◄ button is pressed?
- No → Check the soldering joint of IC1601 and CNP1602.
- Yes ↓

Does voltage on the positive and negative terminals of slide motor change when the►► or◄◄ button is pressed?
- No → Check the soldering joint connected to the slide motor to see whether there is wire breakage.
- Yes ↓

Replace the slide motor.

FUNCTION TABLE OF IC

IC901 RH-iX2718AFZZ:System Control Microcomputer(iX2718AF) (1/2)

Pin No.	Terminal Name	Port Name	Input/Output	Function
1*-4*	C-SW1-C-SW4	P120/RTP0-P123/RTP3	In/Output	Real time output port to output data synchronizing with trigger
5*-8*	TRY_SW1-TRY_SW4	P124/RTP4-P127/RTP7	In/Output	Real time output port to output data synchronizing with trigger
9	VDD	VDD	—	Power terminal
10	MAIN CLK OUT	X2	—	Connection of crystal for main system clock oscillation
11	MAIN CLK IN	X1	Input	Connection of crystal for main system clock oscillation
12	Vss	Vss	—	GND
13*	SUB CLK OUT	XT2	—	Connection of subsystem clock oscillation
14	SUB CLK IN	XT1	Input	Connection of subsystem clock oscillation
15	RESET	RESET	Input	System reset input
16	RX IN	P00/INTP0	In/Output	External interruption request input
17	P-IN	P01/INTP1	In/Output	External interruption request input
18	NAME IN	P02/INTP2/NMI	In/Output	External interruption request input
19*	KB DATA IN/OUT	P03/INTP3	In/Output	External interruption request input
20*	KB CLK IN/OUT	P04/INTP4	In/Output	External interruption request input
21*	PROTECT	P05/INTP5	In/Output	External interruption request input
22	DSTB	P06/INTP6	In/Output	External interruption request input
23	AVDD	AVDD	—	Positive power for A/D converter. Connection to VDD
24	ANREF0	AVREF0	—	Application of reference voltage for A/D converter
25-29	KEY0-KEY4	P10/ANI0-P14/ANI4	Input	Analog voltage input for A/D converter
30	INTIAL AREA	P15/ANI5	Input	Analog voltage input for A/D converter
31*	SPAN SELECT	P16/ANI6	Input	Analog voltage input for A/D converter
32*	VSM	P17/ANI7	Input	Analog voltage input for A/D converter
33	AVSS	AVSS	—	GND for A/D converter, D/A converter. Connection to VSS
34	SD	P130/ANO0	In/Output	GND for A/D converter, D/A converter. Connection to VSS
35*		P131/ANO1	In/Output	GND for A/D converter, D/A converter. Connection to VSS
36	AVREF1	AVREF1	—	Application of reference voltage for A/D converter
37	PC_IN	P70/RxD2/SI2	In/Output	Serial data input (UART2)
38	PC_OUT	P71/TxD2/SO2	In/Output	Serial data output (UART2)
39	VLOAD	P72/ASCK2/SCK2	In/Output	Baud rate clock input (UAET2)
40	MD-DATA	P20/RxD1/SI1	In/Output	Serial data input (UART1)
41	K-DATA	P21/TxD1/SO1	In/Output	Serial data output (UART1)
42	DSCK	P22/ASCK1/SCK1	In/Output	Baud rate clock input (UAET1)
43	MIC_SW	P23/PCL	In/Output	Clock output (For trimming of main system clock and subsystem clock)
44	RWC	P24/BUZ	In/Output	Buzzer output
45	SQOUT	P25/SI0/SDA0	In/Output	Serial data input (3-line type serial I/O0)
46	COIN	P26/SO0	In/Output	Serial data input (3-line type serial I/O0)
47	CQCK	P27/SCK0/SCL0	In/Output	Serial clock input/output (3-line type serial I/O0)
48	RES	P80/A0	In/Output	Low-order address bus in case of external memory expansion
49	WRQ	P81/A1	In/Output	Low-order address bus in case of external memory expansion
50	DRF	P82/A2	In/Output	Low-order address bus in case of external memory expansion
51	SL+	P83/A3	In/Output	Low-order address bus in case of external memory expansion
52	SL-	P84/A4	In/Output	Low-order address bus in case of external memory expansion
53	PU IN	P85/A5	In/Output	Low-order address bus in case of external memory expansion
54	CD-MUTE	P86/A6	In/Output	Low-order address bus in case of external memory expansion
55	MIC_MUTE	P87/A7	In/Output	Low-order address bus in case of external memory expansion
56	S-MUTE	P40/AD0	In/Output	Low-order address/data bus in case of external memory expansion
57	L-MUTE	P41/AD1	In/Output	Low-order address/data bus in case of external memory expansion
58	RLY	P42/AD2	In/Output	Low-order address/data bus in case of external memory expansion
59	POWER	P43/AD3	In/Output	Low-order address/data bus in case of external memory expansion
60	DIN_IN_B	P44/AD4	In/Output	Low-order address/data bus in case of external memory expansion
61	DIN_IN_A	P45/AD5	In/Output	Low-order address/data bus in case of external memory expansion

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

IC901 RH-iX2718AFZZ:System Control Microcomputer(iX2718AF) (2/2)

Pin No.	Terminal Name	Port Name	Input/Output	Function
62*	JOG_B	P46/AD6	In/Output	Low-order address/data bus in case of external memory expansion
63*	JOG_A	P47/AD7	In/Output	Low-order address/data bus in case of external memory expansion
64	CCB-CE	P50/A8	In/Output	Medium-order address bus in case of external memory expansion
65	CCB-DO	P51/A9	In/Output	Medium-order address bus in case of external memory expansion
66	CCB-DI	P52/A10	In/Output	Medium-order address bus in case of external memory expansion
67	CCB-CL	P53/A11	In/Output	Medium-order address bus in case of external memory expansion
68*	FAN MOTOR	P54/A12	In/Output	Medium-order address bus in case of external memory expansion
69	P-DOWN	P55/A13	In/Output	Medium-order address bus in case of external memory expansion
70*	F-SELECT	P56/A14	In/Output	Medium-order address bus in case of external memory expansion
71	TUNER MUTE	P57/A15	In/Output	Medium-order address bus in case of external memory expansion
72	VSS	VSS	—	GND
73	RESET	P60/A16	In/Output	High-order address bus in case of external memory expansion
74	S-ID	P61/A17	In/Output	High-order address bus in case of external memory expansion
75	LOAD	P62/A18	In/Output	High-order address bus in case of external memory expansion
76	SYN	P63/A19	In/Output	High-order address bus in case of external memory expansion
77	DATA	P64/RD	In/Output	Strobe signal output for external memory read operation
78	CLK	P65/WR	In/Output	Strobe signal output for external memory read operation
79*		P66/WAIT	In/Output	Weight insertion in case of external memory access
80*	MD-IN	P67/ASTB	In/Output	Strobe output to latch externally the address information to be output to port 4 to port 6, port 8 for external memory access
81	VDD	VDD	In/Output	Power terminal
82	CS	P100/TI5/TO5	In/Output	External count clock input into 8-bit timer register 5
83	RS	P101/TI6/TO7	In/Output	External count clock input into 8-bit timer register 6
84*		P102/TI7/TO8	In/Output	External count clock input into 8-bit timer register 7
85	MODEL SELECT	P103/TI8/TO9	In/Output	External count clock input into 8-bit timer register 8
86	CD_OPEN_SW	P30/TO0	In/Output	16-bit timer output (to be used also for 14-bit PWM output)
87	CD_CLOSE_SW	P31/TO1	In/Output	8-bit timer output (to be used also for 8-bit PWM output)
88	AUX_B	P32/TO2	In/Output	8-bit timer output (to be used also for 8-bit PWM output)
89	AUX_A	P33/TI1	In/Output	External count clock input into 8-bit timer register 1
90	SRS_PASS/ON	P34/TI4	In/Output	External count clock input into 8-bit timer register 2
91	NAME SEL	P35/TI00	In/Output	External count clock input into 16-bit timer register
92	DATA SEL	P36/TI01	In/Output	Capture trigger signal input into capture/compare register 00
93	NEXT	P37	In/Output	A/D SW Selector signal
94	TEST/VPP	TECT/VPP	—	Flash memory programming mode setting High voltage application terminal to be used for program writing/verifying
95	PLAY1 TRACK	P90	In/Output	A/D SW Selector signal
96	PLAY NORMAL	P91	In/Output	A/D SW Selector signal
97	SKIP+10	P92	In/Output	A/D SW Selector signal
98	SKIP+1	P93	In/Output	A/D SW Selector signal
99	STOP	P94	In/Output	A/D SW Selector signal
100	DUBB MODE	P95	In/Output	A/D SW Selector signal

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

IC712 RH-iX0069AWZZ:FL Driver (IX0069AW)

Pin No.	Terminal Name	Function
1-12	DIG11-DIG00	Digit output
13	$\overline{\text{RESET}}$	Reset input
14	$\overline{\text{CS}}$	Chip selection input
15	SCK	Shift clock input
16	SDATA	Serial data input
17*,18*	P1,P0	Output port (static operation)
19	Vcc1	Positive power terminal for internal logic
20	Xout	Clock output
21	Xin	Clock input
22	Vss	GND terminal
23-31	SEG35-SEG27	Segment output
32	Vp	Negative power terminal for VFD drive
33-59	SEG26-SEG00	Segment output
60	Vcc2	Positive power terminal for digit output and segment output
61-64	DIG15-DIG12	Digit output

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

IC901 RH-iX2718AFZZ: System Control Microcomputer (iX2718AF)

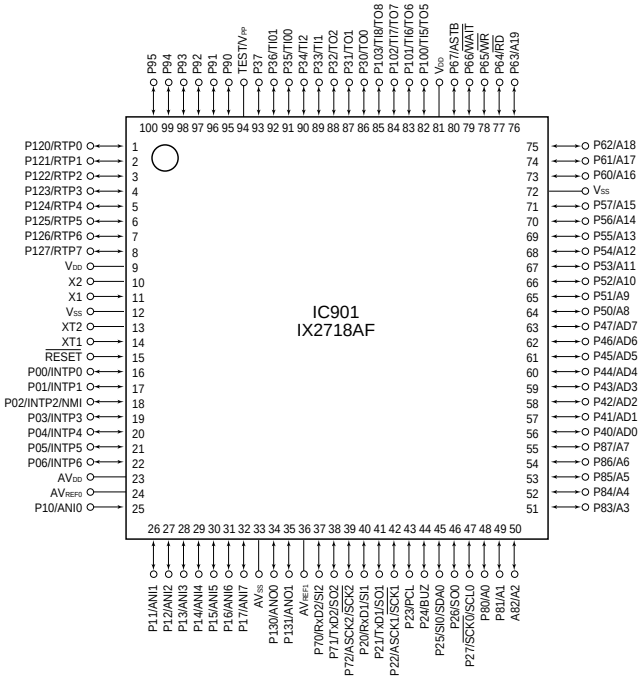

IC901
IX2718AF
P95 P94 P93 P92 P91 P90 TEST/VPP P37 P36/TI01 P35/TI00 P34/TI2 P33/TI1 P32/TO2 P31/TO1 P30/TO0 P103/TI8/TO8 P102/TI7/TO7 P101/TI6/TO6 P100/TI5/TO5 VDD P67/ASTB P66/WAIT P65/WR P64/RD P63/A19
P120/RTP0 P121/RTP1 P122/RTP2 P123/RTP3 P124/RTP4 P125/RTP5 P126/RTP6 P127/RTP7 VDD X2 X1 VSS XT2 XT1 RESET P00/INTP0 P01/INTP1 P02/INTP2/NMI P03/INTP3 P04/INTP4 P05/INTP5 P06/INTP6 AVDD AVREF0 P10/ANI0
P62/A18 P61/A17 P60/A16 VSS P57/A15 P56/A14 P55/A13 P54/A12 P53/A11 P52/A10 P51/A9 P50/A8 P47/AD7 P46/AD6 P45/AD5 P44/AD4 P43/AD3 P42/AD2 P41/AD1 P40/AD0 P87/A7 P86/A6 P85/A5 P84/A4 P83/A3
P11/ANI1 P12/ANI2 P13/ANI3 P14/ANI4 P15/ANI5 P16/ANI6 P17/ANI7 AVSS P130/ANO0 P131/ANO1 AVREF1 P70/RxD2/SI2 P71/TxD2/SO2 P72/ASCK2/SCK2 P20/RxD1/SI1 P21/TxD1/SO1 P22/ASCK1/SCK1 P23/PCL P24/BUZ P25/SI0/SDA0 P26/SO0 P27/SCK0/SCL0 P80/A0 P81/A1 A82/A2

Figure 80-1 BLOCK DIAGRAM OF IC

IC712 RH-iX0069AWZZ: FL Driver (IX0069AW)

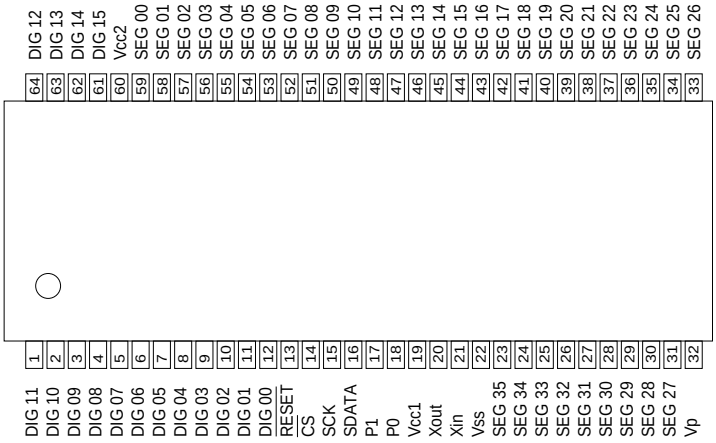


Figure 80-2 BLOCK DIAGRAM OF IC

IC1101 VHiiR3R55//-1:RF Signal Control (IR3R55)

Pin No.	Terminal Name	Function
1	RF1	RF signal input terminal 1 Input of RF signal output of pickup
2	RF2	RF signal input terminal 2 Input of RF signal output of pickup
3	RF3	RF signal input terminal 3 Input of RF signal output of pickup
4	RF4	RF signal input terminal 4 Input of RF signal output of pickup
5	REFI	Reference voltage amp. input terminal
6	REFO	Reference voltage amp. output terminal
7	RFADD	RF1 to 4 resistance addition output terminal
8	TCGI	Track cross detection signal amp. input terminal for groove
9	AIN	Servo signal amp. (focus servo system) inversion input terminal
10	BIN	Servo signal amp. (focus servo system) inversion input terminal
11	EIN	Servo signal amp. (tracking servo system) inversion input terminal
12	FIN	Servo signal amp. (tracking servo system) inversion input terminal
13	BIAS	Bias input terminal
14	AVCC	Analog section power terminal
15*	VSTBY	Logic signal output terminal (STBY signal inversion signal is output.)
16*	XDISC	Logic signal output terminal (DISC signal inversion signal is output.)
17*	XSGAIN	Logic signal output terminal (SGAIN signal inversion signal is output.)
18	AGND	Analog section GND terminal
19	DGND	Digital section GND terminal
20	DTEMP	Chip temperature detection terminal
21	LATCH	Latch signal input terminal
22	CLOCK	Clock signal input terminal
23	DATA	Serial data input terminal
24	DVCC	Digital section power terminal
25	FOUT	Servo signal amp. (tracking servo system) output terminal
26	EOUT	Servo signal amp. (tracking servo system) output terminal
27	BOUT	Servo signal amp. (focus servo system) output terminal
28	AOUT	Servo signal amp. (focus servo system) output terminal
29	TCGO	Track cross detection signal amp. output terminal for groove
30	WBO	Comparator output terminal for ADIP signal binary-coding
31	22KI	Comparator input terminal for ADIP signal binary-coding
32	22KO	ADIP signal HPF amp. output terminal
33	ADLPFO	ADIP signal LPF amp. output terminal
34*	NC	NC
35	ADIPO	ADIP signal preamp. output terminal
36	ADIPI	ADIP signal AGC amp. output terminal
37	ADAGC	ADIP signal AGC smoothing capacitor connection terminal
38	ADAGI	ADIP signal AGC amp. input terminal
39	RF2-1	RF1 and RF2 difference signal
40	EFMO	RF signal preamp. output terminal
41*	WFMI	RF signal AGC amp. output terminal
42	AVCC	Analog section power terminal
43	AGND	Analog section GND terminal
44	EFMAGC	EFM signal AGC smoothing capacitor connection terminal
45	EFMAGI	EFM signal AGC amp. output terminal
46*	ATTR	Pins 47 and 48 output signal attenuation terminal
47	GOUT	Output of signal of RF1+RF2-RF3-RF4 for groove
48	POUT	Rf1 to 4 resistance addition output for pit

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

IC1201 VHiLR37648/-1:ENDEC/ATRAC (LR37648) (1/2)

Pin No.	Terminal Name	Input/Output	Function
1*	EFMMON	Output	EFM monitor output
2	AVCC	—	Analog power
3	EFMI	Input	EFM signal input from RF amp.
4	AGND	—	Analog GND
5	AIN	Input	Focus error signal A
6	EIN	Input	Tracking error signal E
7	TCG	Input	Track cross signal
8	BIN	Input	Focus error signal B
9	FIN	Input	Tracking error signal F
10*	VBAT	Input	Power voltage detection signal for constant voltage servo
11	WBI	Input	ADIP wobble signal
12	VDD1	—	Digital power
13	DGND	—	Digital GND
14,15	TEST0,TEST1	Input	Input for test. Connection to GND in case of normal use
16	TEST2	Input	Input for test. Endecode/servo mode and ATRAC mode selection
17	X176KO	Output	Clock output. f=176.4 kHz (4fs)
18	FODRF	Output	Focus servo forward output. PWM
19	FODRR	Output	Focus servo reverse output. PWM
20	TRDRF	Output	Tracking servo forward output. PWM
21	LATCH	Output	Tracking servo reverse output. PWM
22	CLOCK	Output	Slide servo forward output. PWM
23	DATA	Output	Slide servo reverse output. PWM
24	DVCC	Output	Spindle servo forward output or spindle servo output. PWM
25	FOUT	Output	Spindle servo reverse output or spindle rotation (forward/reverse)selection
26	EOUT	Output	Address output to external D-RAM. ADR3
27	BOUT	Output	Address output to external D-RAM. ADR2
28	AOUT	Output	Address output to external D-RAM. ADR1
29	TCGO	Output	Address output to external D-RAM. ADR0 (LSB)
30*	WBO	Output	Address output to external D-RAM. ADR10 (MSB)
31	22KI	—	Power supply for DRAM interface
32	22KO	Output	Address output to external D-RAM. ADR4
33	ADLPFO	Output	Address output to external D-RAM. ADR5
34	NC	Output	Address output to external D-RAM. ADR6
35	ADIPO	Output	Address output to external D-RAM. ADR7
36	ADIPI	Output	Address output to external D-RAM. ADR8
37	ADAGC	Output	Data output enable signal output to external D-RAM
38	ADAGI	—	Digital GND
39	RF2-1	Output	Column address strobe signal output to external D-RAM
40	EFMO	In/Output	Data input/output from and to external D-RAM. D2
41	WFMI	In/Output	Data input/output from and to external D-RAM. D3 (MSB)
42	AVCC	Output	Data input/output from and to external D-RAM. ADR9
43	AGND	Output	Low address strobe signal output to external D-RAM
44	EFMAGC	Output	Data write enable signal output to external D-RAM
45	EFMAGI	In/Output	Data input/output from and to external D-RAM. D1
46	ATTR	In/Output	Data input/output from and to external D-RAM. D0 (LSB)
47*	GOUT	Output	Track cross signal
48*	POUT	Output	ADIP CRC error flag monitor output
49*	PLCK	Output	EFM PLL clock output in playback mode
50	EFM0	Output	EFM signal output in record mode. C1F (C1 error flag) monitor output in playback mode
51*	X700KO	Output	Clock output. f = 705.6 kHz. Clock output is not performed when RSTX = 0.
52*	EXPORT0	Output	Microcomputer extension output port 0
53*	EXPORT1	Output	Microcomputer extension output port 1

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

IC1201 VHiLR37648/-1:ENDEC/ATRAC (LR37648) (2/2)

Pin No.	Terminal Name	Input/Output	Function
54	TESO1	Output	PLLLR. Microcomputer extension output port 2 in case of selection
55	TESO3	In/Output	PLLOSC. Microcomputer extension output port 3 in case of selection
56	TEST4	In/Output	EXTCLK. Microcomputer extension output port 4 in case of selection
57	CDDATA	In/Output	High speed dubbing CD data input. Microcomputer extension output port 5 in case of selection
58	CDLRCK	In/Output	High speed dubbing CD LR data input. Microcomputer extension output port 6 in case of selection
59	CDBCLK	In/Output	High speed dubbing CD bit data input. Microcomputer extension output port 7 in case of selection
60	VXI	Input	Vari-pitch PLL clock input
61	VPO	Output	Vari-pitch PLL phase error output
62	VDD1	—	Digital power
63	DGND	—	Digital GND
64	XI	Input	Oscillation circuit input. 33.8688 MHz
65	XO	Output	Oscillation circuit input. 33.8688 MHz
66	DIN	Input	Digital input signal
67	DOUT	Output	Digital output signal
68	VDD3	—	Power for internal PLL
69	DGND	—	Digital GND
70	LRCK	Output	Music data Lch/Rch selection output
71	BLCK	Output	Music data shift clock
72	DFCK	Output	AD/DA converter digital filter clock. 256 Fs
73	ADDATA	Input	Audio data input
74	DADATA	Output	Audio data output
75*	FEMON	Output	Focus error signal monitor output
76*	TOTMON	Output	Total signal monitor output
77*	TEMON	Output	Tracking error signal monitor output
78*	SBCK	Input	DIN subcode read clock. EIAJ CP-309 Format
79*	SBO	Output	DIN subcode serial data. EIAJ CP-309 Format
80*	SBSY	Output	DIN subcode block sync signal. EIAJ CP-309 Format
81	SFSY	Output	DIN subcode frame sync signal. EIAJ CP-309 Format
82	FOK	Output	Focus OK detection signal. "0" : Focus OK
83	SENSE	Output	Servo status detection signal. "1": Auto-move, auto-jump, auto-focus retraction
84	COUT	Output	Track cross signal output
85	MCCK	Output	Microcomputer clock output. Clock output is performed also when RSTX = 0.
86	DINTX	Output	System controller interface interruption request output terminal
87	VDD1	—	Digital power
88	DGND	—	Digital GND
89	RSTX	Input	Chip reset input. "L": Reset
90	SYD0	In/Output	System controller interface data bus terminal (LSB)
91~96	SYD1~SYD6	In/Output	System controller interface data bus terminal
97	SYD7	In/Output	System controller interface data bus terminal (MSB)
98	SYWRX	Input	System controller interface register writing pulse input
99	SYRDX	Input	System controller register read pulse input
100	SYRS	Input	System controller interface register selection input

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

IC1401 RX-iX0227AWZZ:MD System Microcomputer (IX0227AW) (1/2)

Pin No.	Terminal Name	Input/Output	Function
1*	P96/ANEX1	Output	Input/Output it port P96
2*	P95/ANEX0	Output	Input/Output it port P96
3	P94/DA1	Output	LDVAR (laser power adjustment output)
4*	P93/DA0	Output	ADJS (for automatic adjustment step check)
5*	P92/TB2IN	Output	Input/Output it port P92
6	P91/TB1IN	Input	LD SW CK input (interruption input only in single state)
7	P90/TB0IN	Input	ERR input (monitor PLL UNLOCK)
8	BYTE	Input	GND
9	CNVss	Input	GND
10*	P87/XCIN	Output	ST-ID Output
11*	P86/XOUT	Output	MD search output
12	RESET	Input	RESETInput
13*	XOUT	—	Clock output
14	Vss	—	GND
15	XIN	Input	EXTAL (8.4672 MHz)
16	Vcc	—	+ 3.15V
17	P85/NMI	Input	Input/Output it port P85
18	P84/INT2	Input	DINT (interruption input from MD LSI)
19	P83/INT1	Input	DSENSE (servo sense input from MD LSI)
20	P82/INT0	Input	ST-ID Input (MD-ON)
21	P81/TA4IN	Input	CD search input (syncro REC suspension input from MD LSI)
22	P80/TA4OUT	Output	MD RSW Output
23*	P77/TA3IN	Input	FSW1 (SW power frequency selection)
24	P76/TA3OUT	Output	Vari-pitch correspondence given (H)/not given (L)
25	P75/TA2IN	Input	P-DOWN (power failure detection)
26	P74/TA2OUT	Output	HDON (magnetic head current ON/OFF output)
27	P73/TA1IN	Output	LD+ (loading motor + control output)
28	P72/TA1OUT	Output	LD- (loading motor + control output)
29	P71/TA0IN	Input	CIN (track count signal input)
30*	P70/TA0OUT	Input	INN SW (inner SW detection input)
31	P67/TXD1	Output	R-DATA
32	P66/RXD1	Output	R-LATCH
33	P65/CLK1	Output	R-CLK
34	P64/CTS1/RTS1/ CTS0/CLKS1	Output	DSTB (system controller communication enable and communication beingexecuted)
35	P63/TXD0	Output	MD DATA (MD Data Output)
36	P62/RXD0	Input	K DATA (system controller data input)
37	P61/CLK0	Input	DSCK (system controller communication clock input)
38	P60/CTS0/RTS0	Input	4M/16M DRAM selection input
39	P57/RDY/CLKOUT	Output	R/P output (REC/PLAY selection)
40	P56/ALE	Input	FOK (focus servo status monitor input)
41*	WFMI	In/Output	Input/Output it port P55
42	AVCC	Output	S2 Ouput
43	AGND	Output	S1 Output
44	EFMAGC	Output	SYRS (MD-LSI register selection signal output)
45	EFMAGI	Output	SYRD (MD-LSI read signal output)
46	ATTR	Output	SYWR (MD-LSI right signal output)
47	GOUT	In/Output	SYS D7 (data bus 7)
48	POUT	In/Output	SYS D6 (data bus 6)
49	PLCK	In/Output	SYS D5 (data bus 5)
50	EFM0	In/Output	SYS D4 (data bus 4)
51	X700KO	In/Output	SYS D3 (data bus 3)

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

IC1401 RX-iX0227AWZZ:MD System Microcomputer (IX0227AW) (2/2)

Pin No.	Terminal Name	Input/Output	Function
52	P42/A18	In/Output	SYS D2 (data bus 2)
53	P41/A17	In/Output	SYS D1 (data bus 1)
54	P40/A16	In/Output	SYS D0 (data bus 0)
55*	P37/A15	Output	Input/Output it port P37
56*	P36/A14	Output	Input/Output it port P36
57*	P35/A13	Output	Input/Output it port P35
58	P34/A12	Output	EEPRO (EEPROM protection cancel)
59	P33/A11	Output	EPCS (EEPROM chip selector output)
60	P32/A10	In/Output	EEPD (EEPROM sirial data output)
61	P31A9	Output	EEPK (EEPROM sirial colck output)
62	Vcc	Input	+ 3.15V
63*	P30/A8	Output	Input/Output it port P30
64	Vss	—	GND
65	P27/A7	Output	L3 DATA (soft serial communication, 2 modes provided, LSB fast)
66	P26/A6	Output	L3 MODE (soft serial communication, 2 modes provided, LSB fast)
67	P25/A5	Output	L3 CLK (soft serial communication, 2 modes provided, LSB fast)
68*	P24/A4	Output	Input/Output it port P24
69*	P23/A3	Output	Input/Output it port P23
70	P22/A2	Output	PCNT0 output
71*	P21/A1	Output	Input/Output it port
72	P20/A0	Output	LDON output (H: ON)
73	P17/D15	Output	ANLPTR output
74*	P16/D14	Output	ADPON output (for CK)
75*	P15/D13	Output	DAPON output (for CK)
76*	P14/D12	Output	DFS0 output
77*	P13/D11	Output	DFS1 output
78*	P12/D10	Output	DIG EX output (for CK)
79*	P11/D9	Output	DIG CD output (for CK)
80	P10/D8	Output	XRST (system reset output)
81*	P07/D7	Output	AD MUTE output (for CK)
82*	P06/D6	Output	EMPHA output (for CK)
83*	P05/D5	Output	DA MUTE output (for CK)
84*	P04/D4	Output	MUTE output
85*	P03/D3	Output	DOUTM output (for CK)
86	P02/D2	Input	TEST2 (special mode selection 2)
87	P01/D1	Input	TEST1 (special mode selection 1)
88	P00/D0	Input	TEST0 (special mode selection 0)
89	P107/AN7/KI3	Input	AVCK3 (special mode monitor input)
90	P106/AN6/KI2	Input	AVCK2 (AD/DA section 3.1V monitor input)
91	P105/AN5/KI1	Input	AVCK1 (DOUT section 5V monitor input)
92	P104/AN4/KI0	Input	DTEMP (temperature detection input)
93	P103/AN3	Input	MINF (disc type/REC input)
94	P102/AN2	Input	TEST K1 (test key input 1)
95	P101/AN1	Input	TEST K2 (test key input 2)
96	AVss	—	GND
97	P100/AN0	Input	HINF (mechanism position/HEAD position)
98	VREF	—	+ 3.15V
99	AVcc	—	+ 3.15V
100	P97/ADTRG	Input	Input/Output it port

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

IC1101 VHiiR3R55//-1: RF Signal Control (IR3R55)

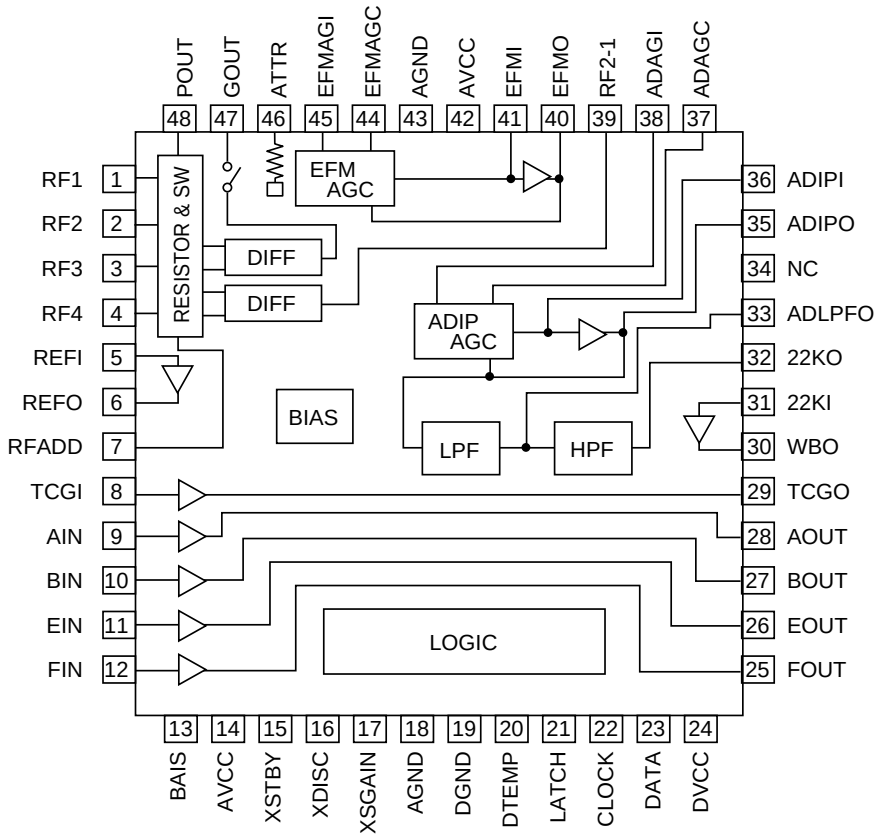


Figure 86-1 BLOCK DIAGRAM OF IC

IC1201 VHiLR37648/-1: ENDEC/ATRAC (LR37648)

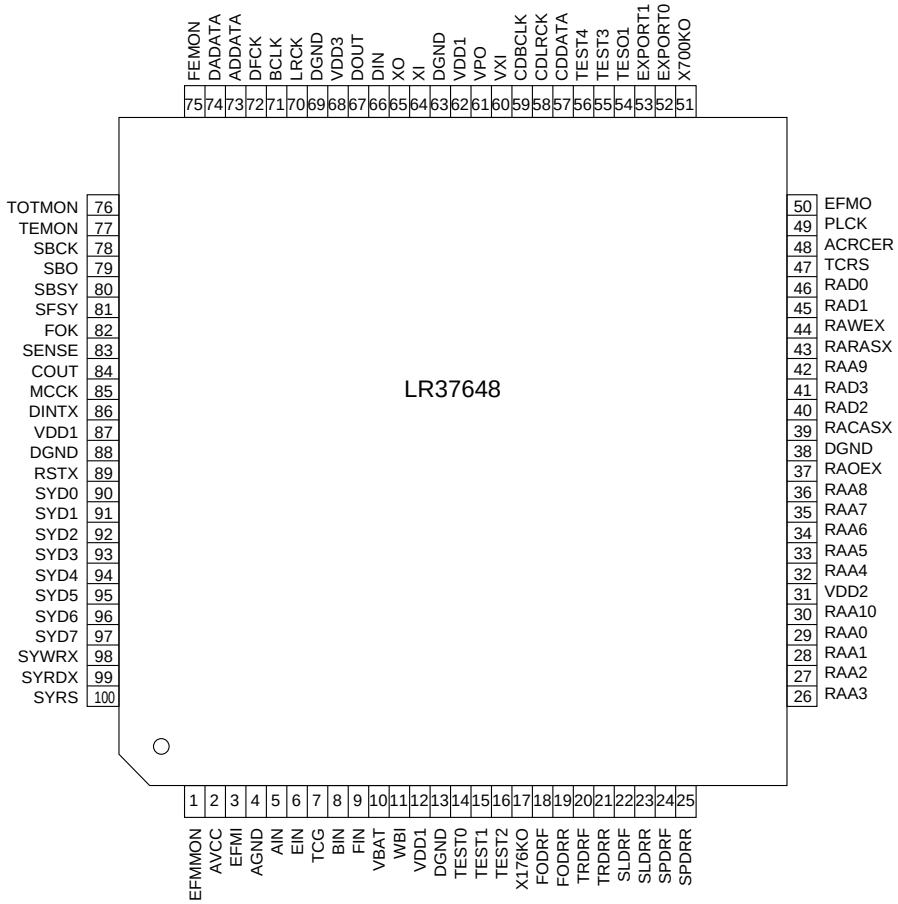


Figure 86-2 BLOCK DIAGRAM OF IC

SHARP PARTS GUIDE

MODEL MD-X5H CP-X5H

"HOW TO ORDER REPLACEMENT PARTS"

To have your order filled promptly and correctly, please furnish the following information.

1. MODEL NUMBER
2. REF. No.
3. PART NO.
4. DESCRIPTION

★ MARK: SPARE PARTS-DELIVERY SECTION

For U.S.A. only

Contact your nearest SHARP Parts Distributor to order.

For location of SHARP Parts Distributor,
Please call Toll-Free;
1-800-BE-SHARP

Explanation of capacitors/resistors parts codes

Capacitors

VCC ..... Ceramic type
VCK..... Ceramic type
VCT..... Semiconductor type
VC • • MF ..... Cylindrical type (without lead wire)
VC • • MN..... Cylindrical type (without lead wire)
VC • • TV..... Square type (without lead wire)
VC • • TQ ..... Square type (without lead wire)
VC • • CY ..... Square type (without lead wire)
VC • • CZ ..... Square type (without lead wire)
VC • • • • • • • • • J .. The 13th character represents capacity difference.
("J" ±5%, "K" ±10%, "M" ±20%, "N" ±30%,
"C" ±0.25 pF, "D" ±0.5 pF, "Z" +80-20%.)

If there are no indications for the electrolytic capacitors, error is ±20%.

Resistors

VRD ..... Carbon-film type
VRS..... Carbon-film type
VRN ..... Metal-film type
VR • • MF ..... Cylindrical type (without lead wire)
VR • • MN..... Cylindrical type (without lead wire)
VR • • TV..... Square type (without lead wire)
VR • • TQ ..... Square type (without lead wire)
VR • • CY ..... Square type (without lead wire)
VR • • CZ ..... Square type (without lead wire)
VR • • • • • • • • • J .. The 13th character represents error.
("J" ±5%, "F" ±1%, "D" ±0.5%.)

If there are no indications for other parts, the resistors are ±5% carbon-film type.

NOTE:
Parts marked with "⚠" are important for maintaining the safety of the set.
Be sure to replace parts with specified ones for maintaining the safety and performance of the set.

MD-X5H/CP-X5H

NO.	PART CODE	★	PRICE RANK	DESCRIPTION

MD-X5H

INTEGRATED CIRCUITS

IC1	VHILA9241M/-1	J	AS	Servo Amp.,LA9241M
IC2	VHILC78623D-1	J	AY	Servo/Signal Control,LC78623D
IC5	VHIM56748FP-1	J	AR	Focus/Tracking/Spin/Slide Driver,M56748FP
IC91	VHITA7291S/-1	J	AH	Loading Motor Driver,TA7291S
IC302	VHILC72131/-1	J	AP	PLL (Tuner),LC72131
IC303	VHILA1832//-1	J	AR	FM IF Det./FM Mpx./AM IF, LA1832
IC501	VHILC75396E-1	J	AT	Audio Processor,LC75396E
IC511	VHIBU4052BC-1	J	AH	Function Selector,BU4052BC
IC552	VHINJM4565M-1	J	AC	Ope Amp.,NJM4565M
IC554	VHINJM4565M-1	J	AC	Ope Amp.,NJM4565M
IC651	VHINJM4558MF-	J	AE	Mic Amp.,NJM4558MF
IC652	VHI74HCU04/-1	J	AF	Inverter,74HCU04
IC712	RH-IX0069AWZZ	J	BA	FL Driver,IX0069AW
IC801	VHILA4451//-1	J	AN	Power Amp.,LA4451
IC802	VHINJM431L/-1	J	AE	Voltage Regulator,NJM431L
IC901	RH-IX2718AFZZ	J		System Microcomputer, IX2718AF
IC903	VHIPST9140/-1	J	AG	Reset,PST9140
IC904	VHI74HC153F-1	J	AH	Inverter,74HC153F
IC1101	VHIIR3R55//-1	J	AQ	RF Signal,Processor,IR3R55
IC1201	VHILR37648/-1	J	BD	ENDEC,LR37648
IC1202	RH-IX2474AFZZ	J	BF	4Mbit D-RAM,IX2474AF
IC1251	VHI74ACT02F-1	J	AF	Head Driver,74ACT02F
IC1401	RH-IX0227AWZZ	J	BF	MD System Microcomputer, IX0227AW
IC1402	VHIS29294A/-1	J	AH	E^2-PROM,S29294A
IC1601	VHIM56758FP-1	J	AM	5-CH Motor Driver,M56758FP
IC1701	VHIUDA1340/-1	J	BA	AD/DA Converter,UDA1340
IC1801	VHIXC62EP32-1	J	AE	Regulator,XC62EP32
IC1802	VHINJM431U/-1	J	AE	Regulator,NJM431U
IC1906	VHITC7ST08F-1	J	AE	AND Gate,TC7ST08F
IC1907	VHITC9246F/-1	J	AM	Clock Generator,TC9246F
IC1916	VHI74VHC08FT1	J	AF	AND Gate,74VHC08FT
IC1990	VHI74AC04FS-1	J	AF	Inverter,74AC04FS
ICT21	VHILC72720/-1	J	AW	RDS Decorder,LC72720

TRANSISTORS

Q1	VSKTA1266GR-1	J	AB	Silicon,PNP,KTA1266 GR
Q71,72	VSDTC363TS/-1	J	AC	Digital,NPN,DTC363 TS
Q73	VSKRA107M//-1	J	AE	Digital,PNP,KRA107 M
Q81	VS2SD468-C/-1	J	AD	Silicon,NPN,2SD468 C
Q91	VSKRC107S//-1	J	AB	Digital,NPN,KRC107 S
Q301	VS2SC380-O/-1	J	AC	Silicon,NPN,2SC380 O
Q353,354	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
Q360	VSKTA1266GR-1	J	AB	Silicon,PNP,KTA1266 GR
Q361	VSKRC107M//-1	J	AC	Digital,NPN,KRC107 M
Q371	VSKTA1266GR-1	J	AB	Silicon,PNP,KTA1266 GR
Q401	VSKRC107M//-1	J	AC	Digital,NPN,KRC107 M
Q403	VSKRC107M//-1	J	AC	Digital,NPN,KRC107 M
Q421	VSKRA107M//-1	J	AE	Digital,PNP,KRA107 M
Q423,424	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
Q501,502	VSDTC363TS/-1	J	AC	Digital,NPN,DTC363 TS
Q705~708	VSKRC107M//-1	J	AC	Digital,NPN,KRC107 M
Q801	VS2SB1238R/-1	J	AD	Silicon,PNP,2SB1238 R
Q802	VS2SB562-C/-1	J	AD	Silicon,PNP,2SB562 C
Q821,822	VSKRC107M//-1	J	AC	Digital,NPN,KRC107 M
Q850	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
Q851	VS2SD2012//-1	J	AD	Silicon,NPN,2SD2012
Q853	VS2SD468-C/-1	J	AD	Silicon,NPN,2SD468 C
Q860	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
Q861	VS2SD2012//-1	J	AD	Silicon,NPN,2SD2012
Q862	VS2SD2012Y/-1	J	AF	Silicon,NPN,2SD2012 Y
Q863	VSKRC107M//-1	J	AC	Digital,NPN,KRC107 M
Q865	VSKRC107M//-1	J	AC	Digital,NPN,KRC107 M
Q870	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
Q871	VS2SD2012//-1	J	AD	Silicon,NPN,2SD2012
Q880	VS2SD2012//-1	J	AD	Silicon,NPN,2SD2012
Q881	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
Q891	VS2SB562-C/-1	J	AD	Silicon,PNP,2SB562 C
Q895	VS2SD467-C/-1	J	AC	Silicon,PNP,2SD467 C
Q902,903	VS2SC2412KR-1	J	AB	Silicon,NPN,2SC2412 KR
Q910	VS2SC2412KR-1	J	AB	Silicon,NPN,2SC2412 KR
Q1251,1252	VS2SK2909//-1	J	AE	FET,2SK2909
Q1253,1254	VS2SK1473//-1	J	AF	FET,2SK1473

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
Q1401	VSRN2404///-1	J	AC	Digital,PNP,RN2404
Q1402	VSRNC1404//-1	J	AB	Digital,NPN,RNC1404
Q1403	VSRN2404///-1	J	AC	Digital,PNP,RN2404
Q1404	VSRNC1404//-1	J	AB	Digital,NPN,RNC1404
Q1451	VSRNC1407//-1	J	AC	Digital,NPN,RNC1407
Q1601	VS2SA1314C/-1	J	AD	Silicon,PNP,2SA1314 C
Q1701	VS2SC2412KR-1	J	AB	Silicon,NPN,2SC2412 KR
Q1801	VS2SA1314C/-1	J	AD	Silicon,PNP,2SA1314 C
Q1802,1803	VSRN1406///-1	J	AB	Digital,NPN,RN1406
Q1804	VS2SA1162G/-1	J	AB	Silicon,PNP,2SA1162 G
Q1806	VSRNC1404//-1	J	AB	Digital,NPN,RNC1404
Q1807	VS2SA1314C/-1	J	AD	Silicon,PNP,2SA1314 C
Q1820	VS2SA1162G/-1	J	AB	Silicon,PNP,2SA1162 G
Q1821,1822	VSRNC1407//-1	J	AC	Digital,NPN,RNC1407
QT21	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR

DIODES

D2	VHD1SS133//-1	J	AA	Silicon,1SS133
D3~5	VHDRL104A//-1	J	AB	Silicon,RL104A
D8,9	VHD1SS133//-1	J	AA	Silicon,1SS133
D91	VHD1SS133//-1	J	AA	Silicon,1SS133
D301~304	VHD1SS133//-1	J	AA	Silicon,1SS133
D351~353	VHD1SS133//-1	J	AA	Silicon,1SS133
D557,558	VHD1SS133//-1	J	AA	Silicon,1SS133
D561,562	VHD1SS133//-1	J	AA	Silicon,1SS133
D631,632	VHD1SS133//-1	J	AA	Silicon,1SS133
D651,652	VHD1SS133//-1	J	AA	Silicon,1SS133
⚠ D801~808	VHDRL204F//-1	J	AC	Silicon,RL204F
D809~812	VHDRL104A//-1	J	AB	Silicon,RL104A
D815~818	VHDRL104A//-1	J	AB	Silicon,RL104A
D821~823	VHD1SS133//-1	J	AA	Silicon,1SS133
D871	VHDRL104A//-1	J	AB	Silicon,RL104A
D902~905	VHD1SS133//-1	J	AA	Silicon,1SS133
D1251,1252	VHDSB0209CP-1	J	AC	Silicon,SB0209CP
D1990	VHD1SS372//-1	J	AD	Silicon,1SS372
ZD81	VHEMTZJ5R6B-1	J	AD	Zener,5.6V,MTZJ5.6B
ZD351	VHEMTZJ5R1B-1	J	AC	Zener,5.1V,MTZJ5.1B
ZD352	VHEMTZJ3R9B-1	J	AC	Zener,3.9V,MTZJ3.9B
ZD401,402	VHEMTZJ7R5B-1	J	AA	Zener,7.5V,MTZJ7.5B
ZD681	VHEMTZJ5R1B-1	J	AC	Zener,5.1V,MTZJ5.1B
ZD801	VHEMTZJ120C-1	J	AC	Zener,12V,MTZJ12C
ZD802	VHEMTZJ390A-1	J	AC	Zener,39V,MTZJ39A
ZD803	VHEMTZJ4R3B-1	J	AC	Zener,4.3V,MTZJ4.3B
ZD850	VHEMTZJ120A-1	J	AA	Zener,12V,MTZJ12A
ZD851	VHEMTZJ6R8B-1	J	AC	Zener,6.8V,MTZJ6.8B
ZD860	VHEMTZJ110A-1	J	AA	Zener,11V,MTZJ11A
ZD871	VHEMTZJ8R2B-1	J	AC	Zener,8.2V,MTZJ8.2B
ZD880	VHEMTZJ6R2B-1	J	AC	Zener,6.2V,MTZJ6.2B
ZDT21	VHEMTZJ5R1B-1	J	AC	Zener,5.1V,MTZJ5.1B

FILTERS

CF301,302	RFILF0072AFZZ	J	AG	FM IF
CF351	RFILF0003AWZZ	J	AK	FM IF
CF352	RFILA0009AWZZ	J	AE	AM IF

TRANSFORMERS

T302	RCILZ0014AWZZ	J	AL	AM Antenna
T351	RCILI0011AWZZ	J	AD	AM IF
⚠ T801	RTRNP0155AWZZ	J	BB	Power

COILS

J727	VP-XHR22K0000	J	AC	0.22 µH,Choke
L1	VP-XHR82K0000	J	AC	0.82 µH,Choke
L341	RBLN-0001AWZZ	J	AD	Balun
L342	VP-DH2R2K0000	J	AB	2.2 mmH,Peaking
L351,352	VP-DH101K0000	J	AB	100 µH,Choke
L353	VP-DH102K0000	J	AB	1 mH,Choke
L354	RFILL0001AWZZ	J	AE	Low Pass Filter
L621	VP-DH2R2K0000	J	AB	2.2 mmH,Peaking
L651~653	VP-DH2R2K0000	J	AB	2.2 mmH,Peaking
L655~657	VP-DH2R2K0000	J	AB	2.2 mmH,Peaking
L661,662	VP-XHR22K0000	J	AC	0.22 µH,Choke
L681	VP-XH2R2K0000	J	AB	2.2 µH,Choke
L731,732	VP-DH470K0000	J	AB	47 µH,Choke
L801,802	RCILZ0137AFZZ	J	AA	0.29 µH
L901	VP-DH2R2K0000	J	AB	2.2 mmH,Peaking
L904~906	VP-DH2R2K0000	J	AB	2.2 mmH,Peaking
L1101	VPBNN100K0000	J	AC	10 µH

NO.	PART CODE	★	PRICE RANK	DESCRIPTION
L1102	VPBNNR47K0000	J	AC	0.47 µH
L1201	VPBNNR47K0000	J	AC	0.47 µH
L1203	VPBNN4R7K0000	J	AC	4.7 µH
L1251	VP-NM470K0000	J	AC	47 µH
L1601	RCILZ0016AWZZ	J	AD	1 µH
L1701,1702	VPBNN100K0000	J	AC	10 µH
L1950	RCILZ0016AWZZ	J	AD	1 µH
LR190	VPBNN4R7K0000	J	AC	4.7 µH
LT21,22	VP-XH2R2K0000	J	AB	2.2 µH,Choke

VARIABLE RESISTORS

VR351	RVR-M0999AFZZ	J	AB	10 kohm (B),Semi-VR [FM Mute Level]
VR602	RVR-B0009AWZZ	J	AM	20 kohm (B),Semi-VR [INPUT LEVEL]

VIBRATORS

X351	RCRM-0028AWZZ	J	AE	Ceramic,456 kHz
X352	RCRSP0002AWZZ	J	AH	Crystal,4.5 MHz
X901	RCRSB0016AWZZ	J	AK	Crystal,8 MHz
XL1	RCRSP0005AWZZ	J	AF	Crystal,16.934 MHz
XL1201	RCRSC0001AWZZ	J	AL	Crystal,33.8688 MHz
XT21	RCRSB0030AWZZ	J	AH	Crystal,4.332 MHz

CAPACITORS

C2	RC-GZA476AF1A	J	AB	47 µF,10V,Electrolytic
C3	RC-GZA104AF1H	J	AB	0.1 µF,50V,Electrolytic
C4	VCKYTV1HB102K	J	AA	0.001 µF,50V
C5,6	VCKYTV1EB333K	J	AB	0.033 µF,25V
C7	RC-GZA104AF1H	J	AB	0.1 µF,50V,Electrolytic
C8	VCKYTV1EB683K	J	AA	0.068 µF,25V
C9	VCKYTV1EB473K	J	AB	0.047 µF,25V
C10	VCKYTV1HB181K	J	AB	180 pF,50V
C11	VCKRTV1CR104K	J	AA	0.1 µF,16V
C12	VCKYTV1HB331K	J	AA	330 pF,50V
C13	VCKRTV1CR104K	J	AA	0.1 µF,16V
C14	VCKYTV1EB103K	J	AA	0.01 µF,25V
C15	VCKYTV1HB472K	J	AA	0.0047 µF,50V
C16	VCKYTV1HB102K	J	AA	0.001 µF,50V
C17	RC-GZA474AF1H	J	AA	0.47 µF,50V,Electrolytic
C18	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C19	RC-GZA476AF1A	J	AB	47 µF,10V,Electrolytic
C20	VCKYTV1HB332K	J	AA	0.0033 µF,50V
C21	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C22	VCKYTV1EB103K	J	AA	0.01 µF,25V
C24	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C25	VCKYTV1EB103K	J	AA	0.01 µF,25V
C30	VCCSTV1HL2R0C	J	AA	2 pF,50V
C31	VCKYTV1HB272K	J	AA	0.0027 µF,50V
C32	VCCSTV1HL270J	J	AA	27 pF,50V
C33	VCKYTV1HB102K	J	AA	0.001 µF,50V
C34	VCKYTV1EB333K	J	AB	0.033 µF,25V
C35	RC-GZA104AF1H	J	AB	0.1 µF,50V,Electrolytic
C37	RC-GZA227AF0J	J	AB	220 µF,6.3V,Electrolytic
C38	VCKYTV1EB103K	J	AA	0.01 µF,25V
C39	RC-GZA474AF1H	J	AA	0.47 µF,50V,Electrolytic
C40	RC-GZA334AF1H	J	AA	0.33 µF,50V,Electrolytic
C41,42	VCKYTV1EF473Z	J	AB	0.047 µF,25V
C43,44	RC-GZA107AF1A	J	AB	100 µF,10V,Electrolytic
C45	RC-GZA475AF1E	J	AB	4.7 µF,25V,Electrolytic
C46	VCKYTV1EF223Z	J	AA	0.022 µF,25V
C50	VCKRTV1CR104K	J	AA	0.1 µF,16V
C51	VCKYTV1EF223Z	J	AA	0.022 µF,25V
C52	RC-GZA107AF1A	J	AB	100 µF,10V,Electrolytic
C53	VCKYTV1HB221K	J	AA	220 pF,50V
C54~58	VCKYTV1HB101K	J	AA	100 pF,50V
C59	VCKYTV1EF223Z	J	AA	0.022 µF,25V
C61	VCCCTV1HH120J	J	AA	12 pF (CH),50V
C62	VCCCTV1HH150J	J	AA	15 pF (CH),50V
C67,68	RC-GZA106AF1C	J	AB	10 µF,16V,Electrolytic
C69,70	VCKYTV1HB221K	J	AA	220 pF,50V
C71	RC-GZA476AF1A	J	AB	47 µF,10V,Electrolytic
C81	RC-GZA107AF1A	J	AB	100 µF,10V,Electrolytic
C91	RC-GZA476AF1C	J	AB	47 µF,16V,Electrolytic
C92	VCKZPA1HF223Z	J	AA	0.022 µF,50V
C93	RC-GZA476AF1C	J	AB	47 µF,16V,Electrolytic
C94	VCKYTV1EF223Z	J	AA	0.022 µF,25V
C95	VCKYTQ1HF104Z	J	AB	0.1 µF,50V
C96	RC-GZA104AF1H	J	AB	0.1 µF,50V,Electrolytic

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
C301	VCKYMN1HB102K	J	AA	0.001 µF,50V
C330	VCCUMN1HJ6R8D	J	AB	6.8 pF (UJ),50V
C331	VCKZPA1HF473Z	J	AA	0.047 µF,50V
C332,333	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C334	RC-GZA106AF1C	J	AB	10 µF,16V,Electrolytic
C340	RC-GZA107AF1C	J	AB	100 µF,16V,Electrolytic
C341,342	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C343,344	VCCSMN1HL330J	J	AA	33 pF,50V
C345~347	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C348	VCTYMN1CY103K	J	AA	0.01 µF,16V
C350,351	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C352	RC-GZA106AF1C	J	AB	10 µF,16V,Electrolytic
C353,354	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C355	VCCSMN1HL220J	J	AA	22 pF,50V
C356	VCKYMN1HB102K	J	AA	0.001 µF,50V
C357	RC-GZA225AF1H	J	AB	2.2 µF,50V,Electrolytic
C358	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C359	————		—	150 pF [CNW401 Ass'y]
C361	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C362	RC-GZA335AF1H	J	AB	3.3 µF,50V,Electrolytic
C363	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C364	RC-GZA106AF1C	J	AB	10 µF,16V,Electrolytic
C365	VCTYPA1CX223K	J	AA	0.022 µF,16V
C366	VCKYMN1HB102K	J	AA	0.001 µF,50V
C367,368	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C369	VCCSBT1HL270J	J	AA	27 pF,50V
C370~372	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C373,374	VCTYPA1CX393K	J	AB	0.039 µF,16V
C375	RC-GZA335AF1H	J	AB	3.3 µF,50V,Electrolytic
C380	RC-GZA106AF1C	J	AB	10 µF,16V,Electrolytic
C381	VCCCMN1HH120J	J	AA	12 pF (CH),50V
C382	VCCCMN1HH150J	J	AA	15 pF (CH),50V
C385	VCTYMN1CY103K	J	AA	0.01 µF,16V
C386	VCKYMN1HB331K	J	AA	330 pF,50V
C387	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C391	RC-GZA476AF1C	J	AB	47 µF,16V,Electrolytic
C392	VCKYMN1HB102K	J	AA	0.001 µF,50V
C393	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C394	RC-GZA476AF1C	J	AB	47 µF,16V,Electrolytic
C395	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C396	RC-GZA107AF1C	J	AB	100 µF,16V,Electrolytic
C397	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C398	RC-GZA107AF1A	J	AB	100 µF,10V,Electrolytic
C399	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C401,402	RC-GZA476AF1E	J	AB	47 µF,25V,Electrolytic
C403,404	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C407,408	RC-GZA106AF1H	J	AB	10 µF,50V,Electrolytic
C435	RC-GZA226AF1E	J	AB	22 µF,25V,Electrolytic
C501~508	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C511,512	RC-GZA476AF1C	J	AB	47 µF,16V,Electrolytic
C515,516	RC-GZA225AF1H	J	AB	2.2 µF,50V,Electrolytic
C517,518	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C519,520	RC-GZA224AF1H	J	AA	0.22 µF,50V,Electrolytic
C521~524	RC-GZA154AF1H	J	AA	0.15 µF,50V,Electrolytic
C525,526	RC-GZA104AF1H	J	AB	0.1 µF,50V,Electrolytic
C527,528	RC-GZA224AF1H	J	AA	0.22 µF,50V,Electrolytic
C529,530	VCQYKA1HM273J	J	AB	0.027 µF,50V,Mylar
C531,532	VCQYKA1HM153J	J	AB	0.015 µF,50V,Mylar
C533,534	VCQYKA1HM222J	J	AB	0.0022 µF,50V,Mylar
C535,536	VCQYKA1HM472J	J	AA	0.0047 µF,50V,Mylar
C537,538	VCE9AA1HF105M	J	AC	1 µF,50V,Electrolytic,Non-polar
C539,540	RC-GZA106AF1C	J	AB	10 µF,16V,Electrolytic
C541,542	RC-GZA225AF1H	J	AB	2.2 µF,50V,Electrolytic
C543~546	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C549	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C550	RC-GZA337AF1C	J	AC	330 µF,16V,Electrolytic
C551~553	RC-GZA476AF1C	J	AB	47 µF,16V,Electrolytic
C554	RC-GZA226AF1E	J	AB	22 µF,25V,Electrolytic
C555	VCKYPA1HB102K	J	AA	0.001 µF,50V
C557	RC-GZA476AF1H	J	AB	47 µF,50V,Electrolytic
C558,559	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C560	RC-GZA476AF1H	J	AB	47 µF,50V,Electrolytic
C561,562	RC-GZA476AF1C	J	AB	47 µF,16V,Electrolytic
C565,566	VCCSMN1HL470J	J	AA	47 pF,50V
C567,568	RC-GZA226AF1H	J	AB	22 µF,50V,Electrolytic
C569	RC-GZA107AF1E	J	AB	100 µF,25V,Electrolytic
C571,572	VCKYPA1HB102K	J	AA	0.001 µF,50V
C573,574	VCKYMN1HB820K	J	AA	82 pF,50V
C575,576	RC-GZA226AF1H	J	AB	22 µF,50V,Electrolytic
C591	RC-GZA106AF1H	J	AB	10 µF,50V,Electrolytic
C592,593	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C594	RC-GZA106AF1H	J	AB	10 µF,50V,Electrolytic

NO.	PART CODE	★	PRICE RANK	DESCRIPTION
C625,626	VCKYPA1HF103Z	J	AB	0.01 µF,16V
C628	VCKYPA1HF223Z	J	AB	0.022 µF,50V
C634	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C651,652	VCKYMN1HB331K	J	AA	330 pF,50V
C653,654	VCKYMN1HB391K	J	AA	390 pF,50V
C661,662	RC-GZA225AF1H	J	AB	2.2 µF,50V,Electrolytic
C663,664	VCTYMN1CX222K	J	AA	0.0022 µF,16V
C665,666	VCTYMN1CX822K	J	AA	8200 pF,16V
C667,668	VCKYMN1HB471K	J	AA	470 pF,50V
C669,670	RC-GZA226AF1H	J	AB	22 µF,50V,Electrolytic
C671,672	VCKYMN1CX122K	J	AA	0.0012 µF,16V
C673	RC-GZA476AF1C	J	AB	47 µF,16V,Electrolytic
C674,675	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C676	RC-GZA476AF1C	J	AB	47 µF,16V,Electrolytic
C680	VCKYPA1HF473Z	J	AB	0.047 µF,50V
C681	VCTYPA1EF104Z	J	AA	0.1 µF,25V
C682	VCTYPA1EX103K	J	AA	0.01 µF,25V
C683	VCTYPA1EF104Z	J	AA	0.1 µF,25V
C684	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C685	VCTYPA1EF104Z	J	AA	0.1 µF,25V
C687	VCKYPA1HB102K	J	AA	0.001 µF,50V
C706	VCKYPA1HB101K	J	AA	100 pF,50V
C707	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C708	VCKYPA1HB101K	J	AA	100 pF,50V
C711~714	VCKYPA1HB391K	J	AA	390 pF,50V
C730	RC-EZD105AF1H	J	AB	1 µF,50V,Electrolytic
C731	RC-EZD106AF1C	J	AB	10 µF,16V,Electrolytic
C732	VCCCPA1HH270J	J	AA	27 pF (CH),50V
C743	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C744~746	RC-EZD105AF1H	J	AB	1 µF,50V,Electrolytic
C801~804	RC-QZA224AFYJ	J	AB	0.22 µF,50V,Mylar
C805	RC-GZV108AF1E	J	AD	1000 µF,25V,Electrolytic
C806,807	RC-GZA476AF1E	J	AB	47 µF,25V,Electrolytic
C808,809	VCKYPA1HF223Z	J	AB	0.022 µF,50V
C810	RC-GZA104AF1H	J	AB	0.1 µF,50V,Electrolytic
C811	RC-GZA476AF1J	J	AC	47 µF,63V,Electrolytic
C812~814	RC-GZA476AF1H	J	AB	47 µF,50V,Electrolytic
C815	VCKYPA1HF223Z	J	AB	0.022 µF,50V
C816	RC-GZA106AF1E	J	AA	10 µF,25V,Electrolytic
C817,818	RC-GZV227AF1H	J	AC	220 µF,50V,Electrolytic
C819	RC-GZV227AF1J	J	AD	220 µF,63V,Electrolytic
C821,822	VCTYPA1EX152K	J	AA	0.0015 µF,25V
C823,824	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C825,826	RC-GZA107AF1H	J	AC	100 µF,50V,Electrolytic
C827,828	VCKYPA1HB102K	J	AA	0.001 µF,50V
C829	RC-GZA337AF1V	J	AB	330 µF,35V,Electrolytic
C831,832	RC-GZA476AF1H	J	AB	47 µF,50V,Electrolytic
C833,834	RC-GZV108AF1E	J	AD	1000 µF,25V,Electrolytic
C837,838	VCQYKA1HM104J	J	AC	0.1 µF,50V,Mylar
C839,840	VCKYPA1HB102K	J	AA	0.001 µF,50V
C841~848	VCKYPA1HF223Z	J	AB	0.022 µF,50V
C849,850	VCKZPA1HF103Z	J	AA	0.01 µF,50V
C851	VCKYPA1HF223Z	J	AB	0.022 µF,50V
C852	RC-GZA107AF1C	J	AB	100 µF,16V,Electrolytic
C853	RC-GZA476AF1E	J	AB	47 µF,25V,Electrolytic
C854	VCKYPA1HF223Z	J	AB	0.022 µF,50V
C855	RC-GZA107AF1C	J	AB	100 µF,16V,Electrolytic
C856	RC-GZA476AF1E	J	AB	47 µF,25V,Electrolytic
C857,858	VCKYPA1HF223Z	J	AB	0.022 µF,50V
C861	VCKYPA1HF223Z	J	AB	0.022 µF,50V
C862	RC-GZA107AF1C	J	AB	100 µF,16V,Electrolytic
C863	RC-GZA476AF1E	J	AB	47 µF,25V,Electrolytic
C864	VCKYPA1HF223Z	J	AB	0.022 µF,50V
C865,866	RC-GZA107AF1A	J	AB	100 µF,10V,Electrolytic
C867,868	VCKYPA1HF223Z	J	AB	0.022 µF,50V
C870	RC-GZA107AF1A	J	AB	100 µF,10V,Electrolytic
C871	RC-GZA476AF1E	J	AB	47 µF,25V,Electrolytic
C872,873	VCKYPA1HF223Z	J	AB	0.022 µF,50V
C875	RC-GZA227AF1A	J	AB	220 µF,10V,Electrolytic
C876	RC-GZA227AF1C	J	AB	220 µF,16V,Electrolytic
C880	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C881	VCTYPA1EF104Z	J	AA	0.1 µF,25V
C882	VCKZPA1HF103Z	J	AA	0.01 µF,50V
C883	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C884	RC-GZA227AF1C	J	AB	220 µF,16V,Electrolytic
C885	VCKYPA1HF223Z	J	AB	0.022 µF,50V
C891	RC-GZA227AF1C	J	AB	220 µF,16V,Electrolytic
C892	RC-GZA476AF1C	J	AB	47 µF,16V,Electrolytic
C895	RC-GZW228AF1H	J	AH	2200 µF,50V,Electrolytic
C896	92LCEU25W6800M	J	AP	6800 µF,25V,Electrolytic
C897	VCKYPA1HF223Z	J	AB	0.022 µF,50V
C898	RC-GZA227AF1V	J	AD	220 µF,35V,Electrolytic

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
C899	RC-GZA335AF1H	J	AB	3.3 µF,50V,Electrolytic
C901	VCKYPA1HF473Z	J	AB	0.047 µF,50V
C908	VCCCTV1HH100D	J	AA	10 pF (CH),50V
C912	VCCCTV1HH150J	J	AA	15 pF (CH),50V
C913,914	VCKYTV1HB101K	J	AA	100 pF,50V
C915,916	VCKYTV1EF104Z	J	AA	0.1 µF,25V
C919,920	VCKYTV1HB101K	J	AA	100 pF,50V
C921	VCKYTV1EB223K	J	AB	0.022 µF,25V
C922	VCKRTV1CR104K	J	AA	0.1 µF,16V
C923~925	VCKYTQ1CF105Z	J	AC	1 µF,16V
C926	RC-GZA477AF0J	J	AB	470 µF,6.3V,Electrolytic
C927	RC-GZA227AF1A	J	AB	220 µF,10V,Electrolytic
C928	RC-GZA108AF0J	J	AC	1000 µF,6.3V,Electrolytic
C930	VCKYTQ1HF104Z	J	AB	0.1 µF,50V
C933	VCKYTV1EF223Z	J	AA	0.022 µF,25V
C936	VCKYTV1EF104Z	J	AA	0.1 µF,25V
C937	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C1101	RC-KZ0003AWZZ	J	AE	4.7 µF,10V
C1102	VCKYTV0JB105K	J	AD	1 µF,6.3V
C1103	VCKYTV1CF105Z	J	AB	1 µF,16V
C1104	VCKYTV1HB273K	J	AA	0.027 µF,50V
C1105	VCKYTV0JB105K	J	AD	1 µF,6.3V
C1106	VCKYTV1CB474K	J	AC	0.47 µF,16V
C1107	VCKYTV1HB472K	J	AA	0.0047 µF,50V
C1109	VCKYTV0JB105K	J	AD	1 µF,6.3V
C1110	VCKYTV1CB474K	J	AC	0.47 µF,16V
C1112~1116	VCCCCY1HH271J	J	AA	270 pF (CH),50V
C1117	VCKYCY1HB332K	J	AA	0.0033 µF,50V
C1118	VCKYTV1HB333K	J	AA	0.033 µF,50V
C1119	VCCCCY1HH331J	J	AA	330 pF (CH),50V
C1121	VCKYTV1CF105Z	J	AB	1 µF,16V
C1145	VCKYCY1CB333K	J	AA	0.033 µF,16V
C1202,1203	VCKYTV1CF105Z	J	AB	1 µF,16V
C1204,1205	VCCCCY1HH120J	J	AA	12 pF (CH),50V
C1206,1207	VCKYTV1CF105Z	J	AB	1 µF,16V
C1208	VCKYCY1CB473K	J	AA	0.047 µF,16V
C1209~1211	VCKYTV1CF105Z	J	AB	1 µF,16V
C1251	VCKYCY1CB273K	J	AA	0.027 µF,16V
C1252	VCCCTV1HH121J	J	AA	120 pF (CH),50V
C1254	RC-KZ0002AWZZ	J	AE	10 µF,10V
C1255	RC-KZ0003AWZZ	J	AE	4.7 µF,10V
C1401,1402	VCKYCY1CB473K	J	AA	0.047 µF,16V
C1403	VCKYCY1HB681K	J	AA	680 pF,50V
C1405	VCKYCY1EF104Z	J	AA	0.1 µF,25V
C1406	VCKYTV1CF105Z	J	AB	1 µF,16V
C1407	VCKYCY1CB223K	J	AA	0.022 µF,16V
C1412	VCKYCY1HB681K	J	AA	680 pF,50V
C1421~1424	VCKYCY1CB223K	J	AA	0.022 µF,16V
C1425	VCKYCY1CB473K	J	AA	0.047 µF,16V
C1460	VCKYTV1CF105Z	J	AB	1 µF,16V
C1601,1602	RC-KZ0003AWZZ	J	AE	4.7 µF,10V
C1604	VCCCCY1HH560J	J	AA	56 pF (CH),50V
C1605	VCEAPS107AF1A	J	AD	100 µF,10V,Electrolytic
C1609	VCKYTQ1CF105Z	J	AC	1 µF,16V
C1610	RC-KZ0002AWZZ	J	AE	10 µF,10V
C1631	VCKYTV1CF105Z	J	AB	1 µF,16V
C1650~1653	VCCSCY1HL821J	J	AA	820 pF,50V
C1654,1655	VCKYCY1EB153K	J	AA	0.015 µF,25V
C1656,1657	VCKYCY1HB562K	J	AA	0.0056 µF,50V
C1661	VCEAPS107AF1A	J	AD	100 µF,10V,Electrolytic
C1700,1701	VCKYTV1HF103Z	J	AA	0.01 µF,50V
C1702	VCKYCY1CB473K	J	AA	0.047 µF,16V
C1703	VCEAPS476AF0G	J	AC	47 µF,4V,Electrolytic
C1704	VCKYTV1CF105Z	J	AB	1 µF,16V
C1706,1707	RC-EZ1620AFZZ	J	AC	10 µF,16V,Electrolytic
C1709	VCKYCY1CB473K	J	AA	0.047 µF,16V
C1710	VCEAPS476AF0G	J	AC	47 µF,4V,Electrolytic
C1711	VCKYTV1HF103Z	J	AA	0.01 µF,50V
C1712	VCEAPS476AF0G	J	AC	47 µF,4V,Electrolytic
C1714	VCEAPS476AF0G	J	AC	47 µF,4V,Electrolytic
C1715	VCEAPS226AF0G	J	AC	22 µF,4V,Electrolytic
C1716,1717	VCKYTV1HF103Z	J	AA	0.01 µF,50V
C1720	VCKYCY1CB103K	J	AA	0.01 µF,16V
C1722	VCCCCY1HH101J	J	AA	100 pF (CH),50V
C1724	VCCCCY1HH101J	J	AA	100 pF (CH),50V
C1729	VCCCCY1HH221J	J	AA	220 pF (CH),50V
C1743	VCEAPS476AF0G	J	AC	47 µF,4V,Electrolytic
C1801	VCKYTQ1CF225Z	J	AB	2.2 µF,16V
C1802	VCEAPS107AF1A	J	AD	100 µF,10V,Electrolytic
C1803	RC-KZ0002AWZZ	J	AE	10 µF,10V
C1805	VCKYTV1CF105Z	J	AB	1 µF,16V
C1806	RC-KZ0002AWZZ	J	AE	10 µF,10V

NO.	PART CODE	★	PRICE RANK	DESCRIPTION
C1807	VCEAPS227AF0G	J	AC	220 µF,4V,Electrolytic
C1810	VCKYTV1CF105Z	J	AB	1 µF,16V
C1904	VCKYTQ1CB334K	J	AC	0.33 µF,16V
C1913	VCCCCY1HH220J	J	AA	22 pF (CH),50V
C1927	VCKYCY1CB473K	J	AA	0.047 µF,16V
C1951	VCKYCY1CB473K	J	AA	0.047 µF,16V
C1952	VCKYCY1CB103K	J	AA	0.01 µF,16V
C1953	VCKYTV1CB474K	J	AC	0.47 µF,16V
C1954	VCCCCY1HH150J	J	AA	15 pF (CH),50V
C1955	VCKYCY1CB473K	J	AA	0.047 µF,16V
C1956	VCEAPS476AF0J	J	AC	47 µF,6.3V,Electrolytic
C1957	VCEAPS107AF0J	J	AC	100 µF,6.3V,Electrolytic
C1958	VCKYCY1CB473K	J	AA	0.047 µF,16V
C1964	VCKYCY1HB102K	J	AA	0.001 µF,50V
C1990	VCKYTV0JB105K	J	AD	1 µF,6.3V
C1991	RC-KZ0002AWZZ	J	AE	10 µF,10V
C1992	VCKYCY1EF104Z	J	AA	0.1 µF,25V
CJ172	VCCCCY1HH221J	J	AA	220 pF (CH),50V
CT21	RC-EZD476AF1A	J	AC	47 µF,10V,Electrolytic
CT22	VCTYMN1EF223Z	J	AA	0.022 µF,25V
CT23	RC-EZD106AF1C	J	AB	10 µF,16V,Electrolytic
CT24	VCTYMN0JY223M	J	AB	0.022 µF,6.3V
CT25	VCKYMN1HB561K	J	AA	560 pF,50V
CT26,27	VCCCMN1HH220J	J	AA	22 pF (CH),50V
CT28	RC-EZD476AF1A	J	AC	47 µF,10V,Electrolytic
CT29	VCTYMN1EF223Z	J	AA	0.022 µF,25V
CT36	VCKYPA1HF223Z	J	AB	0.022 µF,50V
CT37	VCTYMN1EF223Z	J	AA	0.022 µF,25V
CT43	RC-EZD106AF1C	J	AB	10 µF,16V,Electrolytic
JC121	VCKYCY1CB473K	J	AA	0.047 µF,16V

RESISTORS

	VRD-MN2BD000C	J	AA	0 ohm,Jumper,ø1.4×3.5mm,Ivory
	VRS-CY1JB000J	J	AA	0 ohm,Jumper,0.8×1.55mm, Green
	VRS-TV2AB000J	J	AA	0 ohm,Jumper,1.25×2mm,Green
⚠ FR805	VRG-ST2EF560J	J	AB	56 ohms,1/4W,Fusible
⚠ FR833,834	VRG-ST2EG4R7J	J	AB	4.7 ohms,1/4W,Fusible
⚠ FR850,851	VRG-ST2EG2R2J	J	AB	2.2 ohms,1/4W,Fusible
J1405	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R2	VRS-TV2AB104J	J	AA	100 kohm,1/10W
R3	VRS-TV2AB153J	J	AA	15 kohms,1/10W
R4	VRS-TV2AB222J	J	AA	2.2 kohms,1/10W
R5	VRS-TV2AB682J	J	AA	6.8 kohms,1/10W
R6	VRS-TV2AB101J	J	AA	100 ohm,1/10W
R7	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R8	VRS-TV2AB123J	J	AA	12 kohms,1/10W
R9	VRS-TV2AB273J	J	AA	27 kohms,1/10W
R10	VRS-TV2AB823J	J	AA	82 kohms,1/10W
R11	VRS-TV2AB332J	J	AA	3.3 kohms,1/10W
R12	VRS-TV2AB153J	J	AA	15 kohms,1/10W
R13	VRS-TV2AB333J	J	AA	33 kohms,1/10W
R14	VRS-TV2AB103J	J	AA	10 kohm,1/10W
R15	VRS-TV2AB473J	J	AA	47 kohms,1/10W
R16	VRS-TV2AB152J	J	AA	1.5 kohms,1/10W
R17	VRS-TV2AB823J	J	AA	82 kohms,1/10W
R18	VRS-TV2AB335J	J	AA	3.3 Mohms,1/10W
R19	VRS-TV2AB393J	J	AA	39 kohms,1/10W
R20	VRS-TV2AB103J	J	AA	10 kohm,1/10W
R21	VRS-TV2AB563J	J	AA	56 kohms,1/10W
R22	VRS-TV2AB682J	J	AA	6.8 kohms,1/10W
R23	VRS-TV2AB122J	J	AA	1.2 kohms,1/10W
R24	VRS-TV2AB103J	J	AA	10 kohm,1/10W
R25	VRS-TV2AB122J	J	AA	1.2 kohms,1/10W
R26,27	VRS-TV2AB224J	J	AA	220 kohms,1/10W
R28,29	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R30	VRS-TV2AB223J	J	AA	22 kohms,1/10W
R31	VRS-TV2AB103J	J	AA	10 kohm,1/10W
R32	VRS-TV2AB563J	J	AA	56 kohms,1/10W
R33	VRS-TV2AB562J	J	AA	5.6 kohms,1/10W
R34	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R35	VRS-TV2AB471J	J	AA	470 ohms,1/10W
R36,37	VRS-TV2AB473J	J	AA	47 kohms,1/10W
R38	VRS-TV2AB333J	J	AA	33 kohms,1/10W
R39,40	VRS-TV2AB223J	J	AA	22 kohms,1/10W
R41	VRS-TV2AB472J	J	AA	4.7 kohms,1/10W
R42	VRS-TV2AB561J	J	AA	560 ohms,1/10W
R43	VRD-ST2EE220J	J	AA	22 ohms,1/4W
R45~48	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R49	VRS-TV2AB103J	J	AA	10 kohm,1/10W
R56	VRS-TV2AB122J	J	AA	1.2 kohms,1/10W

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
R57	VRS-TV2AB273J	J	AA	27 kohms,1/10W
R58	VRS-TV2AB681J	J	AA	680 ohms,1/10W
R60	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R61	VRS-TV2AB221J	J	AA	220 ohms,1/10W
R62~65	VRS-TV2AB823J	J	AA	82 kohms,1/10W
R66,67	VRS-TV2AB683J	J	AA	68 kohms,1/10W
R70	VRS-TV2AB331J	J	AA	330 ohms,1/10W
R71	VRS-TV2AB473J	J	AA	47 kohms,1/10W
R73,74	VRS-TV2AB822J	J	AA	8.2 kohms,1/10W
R75,76	VRS-TV2AB272J	J	AA	2.7 kohms,1/10W
R77,78	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R81	VRD-ST2EE221J	J	AA	220 ohms,1/4W
R82	VRS-TV2AB101J	J	AA	100 ohm,1/10W
R84	VRD-ST2EE220J	J	AA	22 ohms,1/4W
R86,87	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R91	VRD-ST2CD333J	J	AA	33 kohms,1/6W
R93	VRD-RT2HD2R2J	J	AA	2.2 ohms,1/2W
R97	VRS-TV2AB562J	J	AA	5.6 kohms,1/10W
R98	VRS-TV2AB472J	J	AA	4.7 kohms,1/10W
R301	VRD-MN2BD121J	J	AA	120 ohms,1/8W
R319	VRD-MN2BD104J	J	AA	100 kohm,1/8W
R324	VRD-ST2CD103J	J	AA	10 kohm,1/6W
R344	VRD-MN2BD471J	J	AA	470 ohms,1/8W
R345	VRD-MN2BD472J	J	AA	4.7 kohms,1/8W
R346	VRD-MN2BD331J	J	AA	330 ohms,1/8W
R347	VRD-MN2BD682J	J	AA	6.8 kohms,1/8W
R348	VRD-MN2BD681J	J	AA	680 ohms,1/8W
R349	VRD-ST2CD330J	J	AA	33 ohms,1/6W
R350	VRD-ST2CD272J	J	AA	2.7 kohms,1/6W
R351	VRD-MN2BD562J	J	AA	5.6 kohms,1/8W
R352	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R353	VRD-MN2BD271J	J	AA	270 ohms,1/8W
R354	VRD-ST2CD392J	J	AA	3.9 kohms,1/6W
R355	VRD-MN2BD332J	J	AA	3.3 kohms,1/8W
R356	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R357	VRD-ST2CD474J	J	AA	470 kohms,1/6W
R358	VRD-MN2BD822J	J	AA	8.2 kohms,1/8W
R359	VRD-MN2BD182J	J	AA	1.8 kohms,1/8W
R360	VRD-MN2BD472J	J	AA	4.7 kohms,1/8W
R361,362	VRD-MN2BD471J	J	AA	470 ohms,1/8W
R363,364	VRD-MN2BD392J	J	AA	3.9 kohms,1/8W
R365,366	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R367	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R368	VRD-ST2CD333J	J	AA	33 kohms,1/6W
R369	VRD-MN2BD820J	J	AA	82 ohms,1/8W
R370~374	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R376	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R377	VRD-MN2BD473J	J	AA	47 kohms,1/8W
R378	VRD-MN2BD823J	J	AA	82 kohms,1/8W
R379	VRD-MN2BD222J	J	AA	2.2 kohms,1/8W
R380	VRD-MN2BD152J	J	AA	1.5 kohms,1/8W
R381	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R382	VRD-ST2EE151J	J	AA	150 ohms,1/4W
R383~385	VRD-MN2BD562J	J	AA	5.6 kohms,1/8W
R387	VRD-MN2BD223J	J	AA	22 kohms,1/8W
R391,392	VRD-ST2EE391J	J	AA	390 ohms,1/4W
R393	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R395	VRD-ST2CD473J	J	AA	47 kohms,1/6W
R399	VRD-MN2BD330J	J	AA	33 ohms,1/8W
R401,402	VRD-RT2HD561J	J	AA	560 ohms,1/2W
R403,404	VRD-MN2BD473J	J	AA	47 kohms,1/8W
R407,408	VRD-MN2BD104J	J	AA	100 kohm,1/8W
R409,410	VRD-MN2BD473J	J	AA	47 kohms,1/8W
R427,428	VRD-MN2BD104J	J	AA	100 kohm,1/8W
R429,430	VRD-MN2BD222J	J	AA	2.2 kohms,1/8W
R431,432	VRD-MN2BD562J	J	AA	5.6 kohms,1/8W
R433	VRD-MN2BD473J	J	AA	47 kohms,1/8W
R461,462	VRD-ST2CD392J	J	AA	3.9 kohms,1/6W
R463,464	VRD-ST2CD122J	J	AA	1.2 kohms,1/6W
R501,502	VRD-MN2BD222J	J	AA	2.2 kohms,1/8W
R503,504	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R505,506	VRD-MN2BD473J	J	AA	47 kohms,1/8W
R509,510	VRD-MN2BD473J	J	AA	47 kohms,1/8W
R511~518	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R523	VRD-ST2CD153J	J	AA	15 kohms,1/6W
R525	VRD-MN2BD223J	J	AA	22 kohms,1/8W
R528~530	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R532	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R533	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R551	VRD-ST2CD473J	J	AA	47 kohms,1/6W
R552	VRD-MN2BD473J	J	AA	47 kohms,1/8W
R553,554	VRD-MN2BD683J	J	AA	68 kohms,1/8W

NO.	PART CODE	★	PRICE RANK	DESCRIPTION
R555	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R556	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R557,558	VRD-MN2BD272J	J	AA	2.7 kohms,1/8W
R559,560	VRD-ST2EE221J	J	AA	220 ohms,1/4W
R561	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R562	VRD-ST2CD472J	J	AA	4.7 kohms,1/6W
R565,566	VRD-MN2BD822J	J	AA	8.2 kohms,1/8W
R569,570	VRD-MN2BD183J	J	AA	18 kohms,1/8W
R597,598	VRD-MN2BD222J	J	AA	2.2 kohms,1/8W
R625,626	VRD-ST2EE560J	J	AA	56 ohms,1/4W
R651,652	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R653,654	VRD-MN2BD392J	J	AA	3.9 kohms,1/8W
R655,656	VRD-MN2BD273J	J	AA	27 kohms,1/8W
R661,662	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R663,664	VRD-MN2BD333J	J	AA	33 kohms,1/8W
R665,666	VRD-MN2BD394J	J	AA	390 kohms,1/8W
R667,668	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R669,670	VRD-MN2BD332J	J	AA	3.3 kohms,1/8W
R671,672	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R673,674	VRD-MN2BD332J	J	AA	3.3 kohms,1/8W
R675,676	VRD-ST2EE331J	J	AA	330 ohms,1/4W
R680	VRD-MN2BD563J	J	AA	56 kohms,1/8W
R681	VRD-MN2BD272J	J	AA	2.7 kohms,1/8W
R682	VRD-MN2BD224J	J	AA	220 kohms,1/8W
R683	VRD-MN2BD331J	J	AA	330 ohms,1/8W
R684	VRD-ST2CD820J	J	AA	82 ohms,1/6W
R691,692	VRD-MN2BD223J	J	AA	22 kohms,1/8W
R693,694	VRD-MN2BD682J	J	AA	6.8 kohms,1/8W
R695,696	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R697,698	VRD-ST2CD182J	J	AA	1.8 kohms,1/6W
R701	VRD-ST2CD122J	J	AA	1.2 kohms,1/6W
R703	VRD-ST2CD332J	J	AA	3.3 kohms,1/6W
R704	VRD-ST2CD222J	J	AA	2.2 kohms,1/6W
R705	VRD-ST2CD332J	J	AA	3.3 kohms,1/6W
R706	VRD-ST2CD472J	J	AA	4.7 kohms,1/6W
R707	VRD-ST2CD822J	J	AA	8.2 kohms,1/6W
R708	VRD-ST2CD183J	J	AA	18 kohms,1/6W
R711	VRD-ST2CD122J	J	AA	1.2 kohms,1/6W
R712	VRD-ST2CD152J	J	AA	1.5 kohms,1/6W
R713	VRD-ST2CD123J	J	AA	12 kohms,1/6W
R725	VRD-ST2CD103J	J	AA	10 kohm,1/6W
R726	VRD-ST2CD472J	J	AA	4.7 kohms,1/6W
R727	VRD-ST2CD822J	J	AA	8.2 kohms,1/6W
R728	VRD-ST2CD183J	J	AA	18 kohms,1/6W
R729	VRD-ST2CD473J	J	AA	47 kohms,1/6W
R731	VRD-ST2CD122J	J	AA	1.2 kohms,1/6W
R732	VRD-ST2CD152J	J	AA	1.5 kohms,1/6W
R733	VRD-ST2CD182J	J	AA	1.8 kohms,1/6W
R734	VRD-ST2CD222J	J	AA	2.2 kohms,1/6W
R735	VRD-ST2CD332J	J	AA	3.3 kohms,1/6W
R736	VRD-ST2CD472J	J	AA	4.7 kohms,1/6W
R737	VRD-ST2CD822J	J	AA	8.2 kohms,1/6W
R738	VRD-ST2CD183J	J	AA	18 kohms,1/6W
R743	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R744	VRD-ST2CD101J	J	AA	100 ohm,1/6W
R751	VRD-ST2CD104J	J	AA	100 kohm,1/6W
R753	VRD-ST2CD104J	J	AA	100 kohm,1/6W
R755	VRD-ST2CD104J	J	AA	100 kohm,1/6W
R757	VRD-ST2CD104J	J	AA	100 kohm,1/6W
R776	VRD-ST2CD683J	J	AA	68 kohms,1/6W
R802	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R803	VRD-ST2CD103J	J	AA	10 kohm,1/6W
R804	VRD-ST2CD123J	J	AA	12 kohms,1/6W
R814	VRD-ST2CD101J	J	AA	100 ohm,1/6W
R815	VRD-ST2CD332J	J	AA	3.3 kohms,1/6W
R816	VRD-ST2EE221J	J	AA	220 ohms,1/4W
R818	VRD-ST2CD122J	J	AA	1.2 kohms,1/6W
R819	VRD-ST2CD562J	J	AA	5.6 kohms,1/6W
R821,822	VRD-ST2CD333J	J	AA	33 kohms,1/6W
R823,824	VRD-ST2CD331J	J	AA	330 ohms,1/6W
R825,826	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R827	VRD-ST2CD103J	J	AA	10 kohm,1/6W
R828	VRD-ST2CD471J	J	AA	470 ohms,1/6W
R829,830	VRD-RT2HD271J	J	AA	270 ohms,1/2W
R831	VRD-ST2CD103J	J	AA	10 kohm,1/6W
R832	VRS-VV3LA681J	J	AC	680 kohms,3W,Metal Oxide Film
R835~838	VRD-ST2EE6R8J	J	AA	6.8 ohms,1/4W
R839	VRD-ST2CD100J	J	AA	10 ohm,1/6W
R850	VRD-ST2CD222J	J	AA	2.2 kohms,1/6W
R851	VRD-ST2EE221J	J	AA	220 ohms,1/4W
R852	VRD-ST2EE471J	J	AA	470 ohms,1/4W
R853	VRD-ST2EE221J	J	AA	220 ohms,1/4W

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
R861	VRD-ST2CD222J	J	AA	2.2 kohms,1/6W
R862	VRD-ST2EE221J	J	AA	220 ohms,1/4W
R863	VRD-ST2CD472J	J	AA	4.7 kohms,1/6W
R865	VRD-ST2EE151J	J	AA	150 ohms,1/4W
R866	VRD-ST2EE101J	J	AA	100 ohm,1/4W
R872,873	VRD-ST2EE221J	J	AA	220 ohms,1/4W
R880	VRD-ST2CD103J	J	AA	10 kohm,1/6W
R881	VRD-RT2HD471J	J	AA	470 ohms,1/2W
R883	VRD-ST2CD223J	J	AA	22 kohms,1/6W
R884	VRD-ST2CD683J	J	AA	68 kohms,1/6W
R886	VRD-ST2CD103J	J	AA	10 kohm,1/6W
R887	VRD-ST2CD154J	J	AA	150 kohms,1/6W
R888	VRD-ST2CD225J	J	AA	2.2 Mohms,1/6W
R889	VRD-ST2CD224J	J	AA	220 kohms,1/6W
R891	VRD-ST2EE561J	J	AA	560 ohms,1/4W
R895	VRD-ST2EE271J	J	AA	270 ohms,1/4W
R896	VRD-ST2CD682J	J	AA	6.8 kohms,1/6W
R897	VRD-ST2CD104J	J	AA	100 kohm,1/6W
R913,914	VRS-TV2AB562J	J	AA	5.6 kohms,1/10W
R921~923	VRS-TV2AB223J	J	AA	22 kohms,1/10W
R929	VRS-TV2AB475J	J	AA	4.7 Mohms,10W
R933,934	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R939	VRS-TV2AB182J	J	AA	1.8 kohms,1/10W
R940,941	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R944,945	VRS-TV2AB101J	J	AA	100 ohm,1/10W
R946	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R948~950	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R951	VRS-TV2AB103J	J	AA	10 kohm,1/10W
R952	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R953	VRS-TV2AB103J	J	AA	10 kohm,1/10W
R954	VRS-TV2AB224J	J	AA	220 kohms,1/10W
R955	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R956	VRS-TV2AB103J	J	AA	10 kohm,1/10W
R957	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R958	VRS-TV2AB103J	J	AA	10 kohm,1/10W
R961,962	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R964	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R966	VRS-TV2AB332J	J	AA	3.3 kohms,1/10W
R967	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R976	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R977	VRS-TV2AB101J	J	AA	100 ohm,1/10W
R978,979	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R981~984	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R986	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R988	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R990~996	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R998~1004	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R1006	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R1008~1011	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R1014~1016	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R1018~1021	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R1022	VRS-TV2AB223J	J	AA	22 kohms,1/10W
R1025,1026	VRS-TV2AB223J	J	AA	22 kohms,1/10W
R1027	VRS-TV2AB334J	J	AA	330 kohms,1/10W
R1028~1031	VRS-TV2AB223J	J	AA	22 kohms,1/10W
R1033,1034	VRS-TV2AB103J	J	AA	10 kohm,1/10W
R1036,1037	VRS-TV2AB103J	J	AA	10 kohm,1/10W
R1038,1039	VRS-TV2AB474J	J	AA	470 kohms,1/10W
R1040	VRS-TV2AB101J	J	AA	100 ohm,1/10W
R1044	VRD-ST2CD820J	J	AA	82 ohms,1/6W
R1046	VRS-TV2AB103J	J	AA	10 kohm,1/10W
R1047	VRS-TV2AB473J	J	AA	47 kohms,1/10W
R1058	VRS-TV2AB681J	J	AA	680 ohms,1/10W
R1061,1062	VRS-TV2AB103J	J	AA	10 kohm,1/10W
R1063	VRS-TV2AB474J	J	AA	470 kohms,1/10W
R1100	VRS-TQ2BB270J	J	AA	27 ohms,1/8W
R1100A	VRS-TV2AB473J	J	AA	47 kohms,1/10W
R1102	VRS-CY1JB561J	J	AA	560 ohms,1/16W
R1105	VRS-CY1JB394J	J	AA	390 kohms,1/16W
R1106	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1107	VRS-CY1JB1R0J	J	AA	1 ohm,1/16W
R1150~1154	VRS-CY1JB223J	J	AA	22 kohms,1/16W
R1155	VRS-CY1JB563J	J	AA	56 kohms,1/16W
R1166	VRS-CY1JB122J	J	AA	1.2 kohms,1/16W
R1201	VRS-CY1JB151J	J	AA	150 ohms,1/16W
R1202	VRS-CY1JB105J	J	AA	1 Mohm,1/16W
R1210	VRS-CY1JB101J	J	AA	100 ohm,1/16W
R1211	VRS-CY1JB221J	J	AA	220 ohms,1/16W
R1221	VRS-CY1JB221J	J	AA	220 ohms,1/16W
R1223	VRS-TV2AB681J	J	AA	680 ohms,1/10W
R1251	VRS-CY1JB100J	J	AA	10 ohm,1/16W
R1254	VRS-TV2AB221J	J	AA	220 ohms,1/10W

NO.	PART CODE	★	PRICE RANK	DESCRIPTION
R1261~1263	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1266	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1281	VRS-CY1JB470J	J	AA	47 ohms,1/16W
R1401	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R1404	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R1406,1407	VRS-CY1JB332J	J	AA	3.3 kohms,1/16W
R1408	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R1409	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R1412	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R1413	VRS-CY1JB332J	J	AA	3.3 kohms,1/16W
R1414	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1415	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R1416	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1418	VRS-CY1JB473J	J	AA	47 kohms,1/16W
R1420	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R1422~1424	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1425	VRS-CY1JB272J	J	AA	2.7 kohms,1/16W
R1426	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R1427	VRS-CY1JB472J	J	AA	4.7 kohms,1/16W
R1428	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R1429,1430	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1452	VRS-CY1JB332J	J	AA	3.3 kohms,1/16W
R1454	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R1456	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R1458	VRS-CY1JB682J	J	AA	6.8 kohms,1/16W
R1459	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1460	VRS-CY1JB682J	J	AA	6.8 kohms,1/16W
R1461	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1462	VRS-CY1JB682J	J	AA	6.8 kohms,1/16W
R1463	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1464	VRS-CY1JB221J	J	AA	220 ohms,1/16W
R1466	VRS-CY1JB221J	J	AA	220 ohms,1/16W
R1471	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1472	VRS-CY1JB473J	J	AA	47 kohms,1/16W
R1473	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R1474~1476	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R1478	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1609	VRS-CY1JB152J	J	AA	1.5 kohms,1/16W
R1610	VRS-CY1JB303D	J	AA	30 kohms,1/16W
R1611	VRS-CY1JB123D	J	AA	12 kohms,1/16W
R1612	VRS-CY1JB563J	J	AA	56 kohms,1/16W
R1613	VRS-CY1JB273J	J	AA	27 kohms,1/16W
R1614	VRS-CY1JB183D	J	AA	18 kohms,1/16W
R1617	VRS-CY1JB473J	J	AA	47 kohms,1/16W
R1650	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1651	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R1652	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1653	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R1654	VRS-CY1JB682J	J	AA	6.8 kohms,1/16W
R1655	VRS-CY1JB124J	J	AA	120 kohms,1/16W
R1656	VRS-CY1JB682J	J	AA	6.8 kohms,1/16W
R1657	VRS-CY1JB124J	J	AA	120 kohms,1/16W
R1658	VRS-CY1JB153J	J	AA	15 kohms,1/16W
R1659	VRS-CY1JB823J	J	AA	82 kohms,1/16W
R1660	VRS-CY1JB153J	J	AA	15 kohms,1/16W
R1661	VRS-CY1JB823J	J	AA	82 kohms,1/16W
R1662	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1663	VRS-CY1JB623J	J	AA	62 kohms,1/16W
R1664	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1665	VRS-CY1JB623J	J	AA	62 kohms,1/16W
R1666,1667	VRS-CY1JB223J	J	AA	22 kohms,1/16W
R1668,1669	VRS-CY1JB682J	J	AA	6.8 kohms,1/16W
R1701	VRS-CY1JB105J	J	AA	1 Mohm,1/16W
R1702	VRS-CY1JB684J	J	AA	680 kohms,1/16W
R1707,1708	VRS-CY1JB432J	J	AA	4.3 kohms,1/16W
R1710	VRS-CY1JB303J	J	AA	30 kohms,1/16W
R1711	VRS-CY1JB393J	J	AA	39 kohms,1/16W
R1712	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R1713,1714	VRS-CY1JB393J	J	AA	39 kohms,1/16W
R1715	VRS-CY1JB102D	J	AA	1 kohm,1/16W
R1716	VRS-CY1JB332D	J	AA	3.3 kohms,1/16W
R1717	VRS-CY1JB821J	J	AA	820 ohms,1/16W
R1731	VRS-CY1JB470J	J	AA	47 ohms,1/16W
R1733	VRS-CY1JB470J	J	AA	47 ohms,1/16W
R1734,1735	VRS-CY1JB473J	J	AA	47 kohms,1/16W
R1801	VRS-CY1JB182J	J	AA	1.8 kohms,1/16W
R1802	VRS-CY1JB271J	J	AA	270 ohms,1/16W
R1804	VRS-CY1JB224D	J	AA	220 kohms,1/16W
R1805	VRS-CY1JB104D	J	AA	100 kohm,1/16W
R1806,1807	VRS-TV2AB120J	J	AA	12 ohms,1/10W
R1808	VRS-CY1JB273J	J	AA	27 kohms,1/16W
R1809	VRS-CY1JB391J	J	AA	390 ohms,1/16W

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
R1810	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R1811	VRS-CY1JB273J	J	AA	27 kohms,1/16W
R1820,1821	VRS-TV2AB1R0J	J	AA	1 ohm,1/10W
R1827	VRS-CY1JB271J	J	AA	270 ohms,1/16W
R1901	VRS-TV2AB471J	J	AA	470 ohms,1/10W
R1902	VRS-TV2AB182J	J	AA	1.8 kohms,1/10W
R1903,1904	VRS-TV2AB821J	J	AA	820 ohms,1/10W
R1927	VRS-TV2AB220J	J	AA	22 ohms,1/10W
R1939	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R1947	VRS-TV2AB470J	J	AA	47 ohms,1/10W
R1961	VRS-CY1JB101J	J	AA	100 ohm,1/16W
R1962	VRS-CY1JB224J	J	AA	220 kohms,1/16W
R1963	VRS-CY1JB152J	J	AA	1.5 kohms,1/16W
R1964	VRS-CY1JB682J	J	AA	6.8 kohms,1/16W
R1965	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1967	VRS-CY1JB470J	J	AA	47 ohms,1/16W
R1968	VRS-CY1JB221J	J	AA	220 ohms,1/16W
R1969	VRS-TQ2BB560J	J	AA	56 ohms,1/8W
R1973	VRS-CY1JB682J	J	AA	6.8 kohms,1/16W
R1974	VRS-CY1JB221J	J	AA	220 ohms,1/16W
R1994,1995	VRS-CY1JB222J	J	AA	2.2 kohms,1/16W
RC120	VRS-CY1JB221J	J	AA	220 ohms,1/16W
⚠ RP881	RH-QX0003AWZZ	J	AK	Posistor,2.2 ohms
RT21	VRD-MN2BD104J	J	AA	100 kohm,1/8W
RT26	VRD-MN2BD102J	J	AA	1 kohm,1/8W
RT28	VRD-MN2BD102J	J	AA	1 kohm,1/8W
RT29	VRD-ST2CD102J	J	AA	1 kohm,1/6W
RT30	VRD-MN2BD102J	J	AA	1 kohm,1/8W
RT32	VRD-ST2CD103J	J	AA	10 kohm,1/6W
RT33,34	VRD-ST2CD563J	J	AA	56 kohms,1/6W
RT35~37	VRD-ST2CD224J	J	AA	220 kohms,1/6W
RT48,49	VRD-ST2EE391J	J	AA	390 ohms,1/4W
RT55	VRD-ST2CD223J	J	AA	22 kohms,1/6W

OTHER CIRCUITRY PARTS

BI1/CNS1	QCNWN1002AWZZ	J	AK	Connector Ass'y,7-7Pin
BI2/CNS2	QCNWN1003AWZZ	J	AK	Connector Ass'y,8-8Pin
BI3/CNS3	QCNWN1004AWZZ	J	AH	Connector Ass'y,6-6Pin
BI410/CNS410	QCNWN1034AWZZ	J	AT	Connector Ass'y,6-6Pin
BI420/CNS420	QCNWN0991AWZZ	J	AF	Connector Ass'y,4-4Pin
BI801/CNS801	QCNWN0995AWZZ	J	AE	Connector Ass'y,3-3Pin
BI810/CNS810	QCNWN1134AWZZ	J	AL	Connector Ass'y,7-7Pin
BI820/CNS820	QCNWN1029AWZZ	J	AG	Connector Ass'y,7-7Pin
BI906/CNS906	QCNWN1013AWZZ	J	AG	Connector Ass'y,5-5Pin
BI907/CNS907	QCNWN1000AWZZ	J	AF	Connector Ass'y,4-4Pin
BI936A/B	QCNWN1001AWZZ	J	AG	Connector Ass'y,2-2Pin
CN1602	QCNCM890BAF02	J	AD	Plug,2Pin
CN1603	QCNCM890BAFZZ	J	AC	Plug,2Pin
CN1604	QCNCM890BAF06	J	AD	Plug,2Pin
CNP3	92LCONE6P53254	J	AC	Plug,6Pin
CNP10	92LCONE5P53253	J	AB	Plug,5Pin
CNP301	92LCONE-2P5268	J	AB	Plug,2Pin
CNP303	92LCONE8P52147	J	AD	Socket,Wire Trap,8Pin
CNP410	92LCONE6P53253	J	AC	Plug,6Pin
CNP420	92LCONE4P53253	J	AB	Plug,4Pin
CNP801	92LCONE3P5267X	J	AB	Plug,3Pin
CNP810	92LCONE7P53253	J	AC	Plug,7Pin
CNP820	92LCONE7P5268	J	AE	Plug,7Pin
CNP870	92LCONE2P53253	J	AB	Plug,2Pin
CNP901	QCNCWZJ24AWZZ	J	AK	Socket,24Pin
CNP902	92LCONEBP52147	J	AD	Socket,Wire Trap,11Pin
CNP903	QCNCM010PAWZZ	J	AD	Plug,14Pin
CNP904	QCNCM010MAWZZ	J	AC	Plug,12Pin
CNP906	92LCONE5P53253	J	AB	Plug,5Pin
CNP907	92LCONE4P53253	J	AB	Plug,4Pin
CNP908	92LCONPB2BPHK	J	AB	Plug,2Pin
CNP1101	QCNCWY028AFZZ	J	AE	Plug,23Pin
CNP1252	QCNCM891BAFZZ	J	AC	Plug,2Pin
CNP1601	QCNCWXC05AFZZ	J	AC	Plug,5Pin
CNP1902	QCNCWZC24AWZZ	J	AH	Socket,24Pin
CNP1904	QCNCM891DAFZZ	J	AD	Plug,4Pin
CNS10	QCNWN1030AWZZ	J	AF	Connector Ass'y,5Pin
CNS870	QCNWN1123AWZZ	J	AC	Connector Ass'y,2Pin
CNS903	QCNCW010PAWZZ	J	AE	Socket,14Pin
CNS904	QCNCW010MAWZZ	J	AD	Socket,12Pin
CNS1252	QCNWN1044AWZZ	J	AG	Connector Ass'y,2Pin
CNS1901	QCNCW035EAWZZ	J	AG	Socket,5Pin
CNS1904	QCNWN1050AWZZ	J	AH	Connector Ass'y,4-2Pin
CNW401	QCNWN1199AWZZ	J		C359 with Lead Ass'y
⚠ F802	92LFUSET252E	J	AD	Fuse,T2.5A L 250V
⚠ F803	92LFUSE-T202E	J	AD	Fuse,T2.0A L 250V

NO.	PART CODE	★	PRICE RANK	DESCRIPTION
⚠F805,806	92LFUSET631E	J	AC	Fuse,T630mA L 250V
FE301	RTUNS0007AWZZ	J	AT	FM Front End
FL711	VVK16ST15G/-1	J	BH	FL Display
FW303	QCNWN1026AWZZ	J	AE	Connector Ass'y,6Pin
FW902	QCNWN1024AWZZ	J	AF	Connector Ass'y,11Pin
FW1901	QCNWN1042AWZZ	J	AD	Flat Cable,5Pin
JK603	QJAKH0001AWZZ	J	AH	Jack,Headphones
JK650	92LJACKL1779A	J	AG	Jack,Analog In/Output
JK651	92LJACKL1776A	J	AF	Jack,Phono
JK652	QJAKZ0009AWZZ	J	AD	Jack,Digital 2 Coaxial
M701	92LMTR1858CASY	J	AS	Motor with Chassis [Spindle]
M702	92LMTR1854BASY	J	AP	Motor with Gear [Sled]
M703	92LMTR1746A	J	AN	Motor with Pulley [Loading]
M800	92LMTR1810A	J	AK	Motor,Air Cooling Fan
M901	RMOTV0012AWZZ	J	AV	MD Spindle Motor Ass'y
M902	RMOTV0013AWM1	J	AQ	MD Sled Motor Ass'y
M903	RMOTV0014AWM1	J	AQ	MD Loading Motor Ass'y
RX701	VHL21043TH2-1	J	AG	Remote Sensor,21043TH2
SO301	QTANC0103AWZZ	J	AD	Antenna Terminal
SO601	QSOCZ0001AWZZ	J	AN	Socket,Key Board
SO801	QTANA0404AWZZ	J	AF	Terminal,Speaker
SW701	92LSWICHL1749A	J	AD	Switch,Leaf Type [Open/Close]
SW702	QSW-F9001AWZZ	J	AE	Switch,Push Type [Pickup In]
SW705	QSW-K0006AWZZ	J	AC	Switch,Key Type [PRE-EQ]
SW706	QSW-K0006AWZZ	J	AC	Switch,Key Type [X-BASS]
SW708	QSW-K0006AWZZ	J	AC	Switch,Key Type [MD-STOP]
SW709	QSW-K0006AWZZ	J	AC	Switch,Key Type [MD-PLAY/PAUSE]
SW712	QSW-K0006AWZZ	J	AC	Switch,Key Type [CD-PLAY/PAUSE]
SW713	QSW-K0006AWZZ	J	AC	Switch,Key Type [CD-STOP]
SW717	QSW-K0006AWZZ	J	AC	Switch,Key Type [CD-OPEN/CLOSE]
SW727	QSW-K0006AWZZ	J	AC	Switch,Key Type [AUX]
SW728	QSW-K0006AWZZ	J	AC	Switch,Key Type [TUNER (BAND)]
SW729	QSW-K0006AWZZ	J	AC	Switch,Key Type [TRACK UP/TUNING UP]
SW730	QSW-K0006AWZZ	J	AC	Switch,Key Type [TRACK DOWN/TUNING DOWN]
SW731	QSW-K0006AWZZ	J	AC	Switch,Key Type [POWER]
SW732	QSW-K0006AWZZ	J	AC	Switch,Key Type [MD-MD EDIT]
SW733	QSW-K0006AWZZ	J	AC	Switch,Key Type [TRACK]
SW734	QSW-K0006AWZZ	J	AC	Switch,Key Type [CD-MD EDIT]
SW735	QSW-K0006AWZZ	J	AC	Switch,Key Type [MD-REC]
SW736	QSW-K0006AWZZ	J	AC	Switch,Key Type [MD-EJECT]
SW738	QSW-K0006AWZZ	J	AC	Switch,Key Type [VOLUME UP]
SW739	QSW-K0006AWZZ	J	AC	Switch,Key Type [VOLUME DOWN]
SW901	92LSWICH-1385A	J	AC	Switch,Key Type [RESET]
SW1952	QSW-P0006AWZZ	J	AG	Switch,Push Type [DIRECT]
SW1953	QSW-M0157AFZZ	J	AD	Switch,Slide Type [Lead In]
SW1954	QSW-M0002AWZZ	J	AD	Switch,Push Type [Play]
SW1955	QSW-M0002AWZZ	J	AD	Switch,Push Type [Record]
SW1956	QSW-M0001AWZZ	J	AD	Switch,Push Type [Load]
UNA650	VHPGP1F32R/-1	J	AP	AUX Digital In Digital 1 Optical, GP1F32R

MECHANICAL PARTS

1	LANGF0033AWZZ	J	AD	MD Guide (A)
2	LANGF0034AWZZ	J	AD	MD Guide (B)
3	LANGK0092AWFW	J	AM	Base Frame
4	LCHSM0060AWM1	J	AP	Drive Chassis
5	LHLDX3001AWM1	J	AP	Holder,Cartridge
6	MLEVF0024AWM1	J	AF	Lever,Cam Plate
7	MLEVF0025AWZZ	J	AD	Arm,H/A Shift
8	MLEVF0026AWZZ	J	AF	Arm,Holder
9	MLEVF0029AWM1	J	AL	Lever,Roller Arm
10	MLEVP0075AWZZ	J	AD	Lever,Clampa
11	MLEVP0076AWZZ	J	AC	Catch
12	MLEVP0077AWZZ	J	AC	Lever,Slider
13	MSPRD0103AWFJ	J	AB	Spring,Roller Holder
14	MSPRD0105AWFJ	J	AB	Spring,Spin
15	MSPRD1318AFFJ	J	AB	Spring,Shift Arm
16	MSPRD1319AFFJ	J	AB	Spring,Holder Arm
17	MSPRD1321AFFJ	J	AB	Spring,Lack
18	MSPRD1334AFFJ	J	AC	Spring,Catch
19	MSPRP0015AWFJ	J	AB	Spring,Board (A)
20	MSPRP0017AWFJ	J	AB	Spring,Drive Shaft
21	MSPRT1566AFFJ	J	AB	Spring,Roller
22	NGERH0066AWZZ	J	AC	Gear,Loading (B)
23	NGERH0067AWZZ	J	AC	Gear,Drive
24	NGERH0068AWZZ	J	AC	Gear,Loading (A)
25	NGERH0069AWZZ	J	AC	Gear,Roller
26	NGERR0002AWZZ	J	AC	Gear,Lack
29	NROLP0010AWZZ	J	AC	Holder,Roller
30	NROLR0001AWZZ	J	AC	Roller,Transfer
31	NSFTD0005AWFT	J	AF	Shaft,Drive
32	NSFTM0017AWFW	J	AC	Shaft,Loading Gear
33	NSFTM0277AFFW	J	AC	Shaft,Pickup Slide
34	NSFTM0278AFFW	J	AC	Shaft,Pickup Guide
35	PCOVS3021AWFW	J	AL	Cover,Top
36	PCOVS3022AWFW	J	AK	Cover,Bottom
37	PCUSG0531AFSA	J	AD	Cushion (A)
38	PCUSG0531AFSB	J	AD	Cushion (B)
39	PCUSS0040AWZZ	J	AC	Cushion,Head
40	RCILH0108AFZZ	J	AP	Magnetic Head
41	RCTRH8173AFZZ	J	BN	Optical Pickup Unit
42	QCNWN6715AFM1	J	AM	MD Flat Cable,24Pin
43	QCNWN6716AFZZ	J	AL	Connector Ass'y,
46	PSHEP0026AWZZ	J	AC	Sheet,H/A Shift Arm
601	LX-BZ0030AWZZ	J	AB	Screw,ø1.7×9.5mm
602	LX-BZ0031AWZZ	J	AB	Screw,ø1.7×7.5mm
603	LX-BZ0032AWZZ	J	AB	Screw,ø1.7×2mm
604	LX-BZ0804AFFF	J	AA	Screw,ø1.4×2.2mm
605	LX-BZ0846AFZZ	J	AB	Screw,ø1.7×3mm
606	LX-BZ0851AFZZ	J	AB	Screw,ø1.7×2.5mm
607	LX-BZ0852AFFD	J	AC	Screw,ø1.7×8.9mm
608	LX-BZ0883AFZZ	J	AB	Screw,ø1.7×5mm
609	LX-WZ9268AFZZ	J	AA	Washer,ø1.5×ø3.2×0.5mm
610	LX-WZ9269AFZZ	J	AA	Washer,ø1.2×ø3×0.25mm
611	XBPSD20P04K00	J	AA	Screw,ø2×4mm with Washer
612	XSPSN17P03K00	J	AB	Screw,ø1.7×3mm
M901	RMOTV0012AWZZ	J	AV	MD Spindle Motor Ass'y
M902	RMOTV0013AWM1	J	AQ	MD Sled Motor Ass'y
M903	RMOTV0014AWM1	J	AQ	MD Loading Motor Ass'y
SW1952	QSW-P0006AWZZ	J	AG	Switch,Push Type [DIRECT]
SW1953	QSW-M0157AFZZ	J	AD	Switch,Slide Type [Lead In]
SW1954	QSW-M0002AWZZ	J	AD	Switch,Push Type [Play]
SW1955	QSW-M0002AWZZ	J	AD	Switch,Push Type [Record]
SW1956	QSW-M0001AWZZ	J	AD	Switch,Push Type [Loading]

CD MECHANISM PARTS

301	NGERH0011AWZZ	J	AC	Gear,Middle
302	NGERH0012AWZZ	J	AC	Gear,Drive
303	MLEVP0010AWZZ	J	AC	Rail,Guide
304	NSFTM0002AWFW	J	AE	Shaft,Guide
305	PCUSG0427AFSC	J	AC	Cushion
⚠306	RCTRH8164AFZZ	J	BF	Pickup Unit Ass'y
306- 1	————		—	Pickup Unit (Not Replacement Item)
306- 2	NGERR0043AFZZ	J	AC	Gear,Rack
306- 3	MSPRC0961AFZZ	J	AA	Spring,Rack
701	92L2R6S+6CZ	J	AB	Screw,ø2.6×6mm
702	XHBSD20P05000	J	AA	Screw,ø2×5mm
703	XBBSD20P03000	J	AA	Screw,ø2×3mm
704	92L1R5WC3R8R25	J	AA	Washer,ø1.5×ø3.8×0.25mm
M701	92LMTR1858CASY	J	AS	Motor with Chassis [Spindle]
M702	92LMTR1854BASY	J	AP	Motor with Gear [Sled]
SW702	QSW-F9001AWZZ	J	AE	Switch,Push Type [Pickup In]

CABINET PARTS

201	HPNLC1141AWSA	J		Front Panel
202	GITAR0274AWSA	J	AQ	Rear Panel
203	GCAB-1047AWSA	J	AQ	Top Cabinet
204	GCOVA1154AWSA	J	AL	Cover,CD
205	GITAS0040AWSA	J	AP	Side Panel,Left
206	GITAS0041AWSA	J	AP	Side Panel,Right
207	92LCUSN1746A	J	AA	Cushion,Leg
208	92LN-BAND1318A	J	AA	Nylon Band,80mm
209	LBSHC0002AWZZ	J	AD	Bushing,AC Power Supply Cord
210	LANGK0098AWFW	J	AH	Bracket,PWB
211	LHLDZ1161AWZZ	J	AK	Holder,MD
212	JKNBK0048AWSA	J	AD	Knob,Mic Volume
213	GDORF0037AWSA	J	AF	MD Lid
214	LHLDZ1124AW00	J	AC	Holder,MD Lid
215	MSPRD0027AWZZ	J	AB	Spring,MD Lid
216	JKNBZ0438AWSA	J	AH	Button,MD Function
218	JKNBZ0417AWSA	J	AH	Button,CD Fanction
219	JKNBZ0418AWSA	J	AF	Button,Volume Up

NO.	PART CODE	★	PRICE RANK	DESCRIPTION
220	JKNBZ0419AWSA	J	AF	Button,Volume Down
221	JKNBZ0420AWSA	J	AE	Button,X-BASS
222	PSHEP0018AWSA	J	AH	Sheet,FL Display
223	HDECQ0279AWSA	J	AG	Panel,FL Display
224	HDECQ0262AWSA	J	AF	Panel,Volume
225	92LCLMP1810A	J	AC	Wire Holder
226	LHLDZ1001AWZZ	J	AE	Holder,Mechanism
227	GCOVA1001AWSA	J	AH	Disc Holder
228	LHLDM1001AWZZ	J	AE	Stabilizer
229	PMAGF0001AWZZ	J	AF	Magnet
230	NGERR0001AWZZ	J	AE	Gear,Rack
231	92LGEAR1728B	J	AC	Gear,Tray
232	92LPULLY1728A	J	AB	Pulley,Drive
233	92LBELT1728A	J	AB	Belt,Drive
234	LCHSM0001AWZZ	J	AR	Chassis,Loading
235	LANGQ0008AWFW	J	AE	Bracket,Earth
236	LANGK0094AWFW	J	AH	Bracket,Main PWB
237	LCHSM0061AWFW	J	AQ	Main Chassis
238	PSLDM3032AWFW	J	AF	Shield,FL Display (B)
241	NFANP0001AWZZ	J	AD	Rotary Fan
242	92LCSPR1431C	J	AA	Ring Spring,Volume
244	LANGK0107AWFW1	J	AG	Bracket,Fan (A)
245	PRDAR0097AWFW	J	AG	Heat Sink,Main
246	PRDAR0098AWFW	J	AG	Heat Sink,Sub
⚠248	92LLUG1746A	J	AA	Terminal,Lug
⚠249	92LFSHOLD1652T	J	AB	Holder,Fuse
⚠250	QACCB0003AW00	J	BA	AC Power Supply Cord [For UK]
⚠250	QACCE0008AW00	J	AG	AC Power Supply Cord [Except for UK]
252	PSLDM3031AWFW	J	AF	Shield,FL Display (A)
253	LHLDZ1086AWZZ	J	AE	Holder,FL Display
254	LANGK0109AWFW	J	AD	Bracket,Key Jack
255	PRDAR0092AWFW	J	AL	Heat Sink (A)
256	PRDAR0105AWFW	J		Heat Sink (B)
257	PSLDM3042AWFW	J		Shield,Phono
258	LANGK0108AWFW1	J		Bracket,Fan (B)
259	PSPAS0003AWZZ	J	AC	Spacer,Fan Support
260	TCAUS0028AWZZ	J	AB	Label,Laser Caution 3B
261	PCUSG0008AWZZ	J	AB	Cushion,Gum
262	NBRGC0003AWZZ	J	AC	Bearing Metal
263	MSPRD0108AWFJ	J	AC	Spring,Fan Motor
264	MSPRB0002AWFW	J	AC	Spring,Key Earth
265	TLABS0140AWZZ	J	AD	Label,Caution [For UK Only]
266	RCORF0002AWZZ	J	AE	Core
267	92LCAUT1706A	J	AB	Label,Laser Caution 3A
268	92LCAUT1706B	J	AA	Label,Laser Caution 3A
269	TSPC-0472AWZZ	J	AD	Label,Specifications
601	XJBSN30P10000	J	AA	Screw,ø3×10mm
602	XHBSD30P10000	J	AA	Screw,ø3×10mm
603	XHBSD30P06000	J	AA	Screw,ø3×6mm
604	LX-JZ0010AFFD	J	AA	Screw,ø3×10mm
605	XJBSF30P08000	J	AA	Screw,ø3×8mm
606	XBPSD30P10KS0	J	AA	Screw,
607	LX-HZ0082AFZZ	J	AA	Screw,ø4×8mm
608	XEBSD30P08000	J	AA	Screw,ø3×8mm
609	LX-WZ7003AWZZ	J	AB	Washer,ø3.2×ø13×1.0mm
610	XEBSD26P10000	J	AA	Screw,ø2.6×10mm
611	LX-EZ0005AWFD	J	AA	Screw,Special
612	XEBSD26P08000	J	AA	Screw,ø2.6×8mm
613	XBPSD26P05JS0	J	AA	Screw,ø2.6×5mm
614	LX-BZ0880AFZZ	J	AC	Screw,ø2×4mm
615	XEBSF30P10000	J	AA	Screw,ø3×10mm
616	XJBSD30P08000	J	AA	Screw,ø3×8mm
617	XJBSD30P14000	J	AA	Screw,ø3×14mm
618	XHSSD30P06000	J	AA	Screw,ø3×6mm
619	XWHSD32-10130	J	AA	Washer,ø3.2×ø13×1.0mm
620	XWSSN32-07000	J	AB	Washer,ø3.2mm
621	XHBSN30P10000	J	AA	Screw,ø3×10mm

ACCESSORIES/PACKING PARTS

1	SPAKC0576AWZZ	J	AU	Packing Case
2	SPAKA0149AWZZ	J	AM	Packing Add.,Left/Right
3	SSAKH0024AWZZ	J	AD	Polyethylene Bag,Unit
4	92LBAG1460C1	J	AB	Polyethylene Bag,Accessories
5	QANTL0001AWZZ	J	AL	AM Loop Antenna
6	TINSE0186AWZZ	J	AP	Operation Manual [For UK]
6	TINSZ0271AWZZ	J	AR	Operation Manual [Except for UK]
7	92LBAG1770A	J	AB	Polyethylene Bag,AC Power Supply Cord [For UK Only]
8	SPAKP0050AWZZ	J	AC	Polyethylene Bag,Operation Manual
9	92LF-ANT1535A	J	AF	FM Antenna
10	RRMCG0111AWSA	J	BB	Remote Control
10- 1	GFTAB1020AWSA	J		Lid,Remote Control
11	TLABE0197AWZZ	J	AB	Bar Cord Label
12	TCAUH0042AWZZ	J		Caution,Key Board [Except for UK Only]
13	TCAUZ0032AWZZ	J		Caution,Phono [Except for UK Only]

P.W.B. ASSEMBLY (Not Replacement Item)

PWB-A1,2	92LPWB2607TUNS	J	—	Main/Jack
PWB-B1~3	92LPWB2607PWRS	J	—	Power Supply/Display/Power Amp.
PWB-C	92LPWB2607SYSS	J	—	CD Servo
PWB-D	92LPWB2603MDSS	J	—	MD Main
PWB-E	QPWBF0027AWZZ	J	AD	CD Motor (PWB Only)
PWB-F	QPWBF0400AWZZ	J	AC	MD Mechanism Switch (PWB Only)

CP-X5H

SPEAKER BOX PARTS

701	92L312-0065	J	AQ	Front Panel
702	92L121-0108	J	AN	Net Frame Ass'y,Top
703	92L121-0109	J	AN	Net Frame Ass'y,Bottom
704	92L051-0047	J	AZ	Speaker Box Ass'y
705	92L316-0045	J	AG	Duct Pipe
706	92L291-0057	J	AK	Speaker Cord
707	93L351-0210	J		Label,Specifications
708	92L109-0006	J	AH	Panel,Decoration,Left
709	92L372-0064	J	AB	Screw,ø4×16mm
710	92L372-0092	J	AB	Screw,ø3×8mm
711	92L109-007	J		Panel,Decoration,Right
712	92L351-0211	J	AE	Label,Decoration
C1,2	92L293-0055	J		1.5 µF,50V,Electrolytic,Non-Polar
SP1,2	VSP0012PBE86A	J	BA	Speaker,Woofer
SP3,4	VSP0050TBH76A	J	AT	Speaker,Tweeter

ACCESSORIES/PACKING PARTS

1	92L412-0089	J	AL	Packing Add.,Top/Bottom, Speaker
2	92L411-0089	J	AC	Polyethylene Bag,Speaker
3	92L414-0017	J	AD	Sheet
4	TLABM0047AWSA	J	AK	Label,Feature [Except for UK]
4	TLABM0048AWSA	J	AK	Label,Feature [For UK]

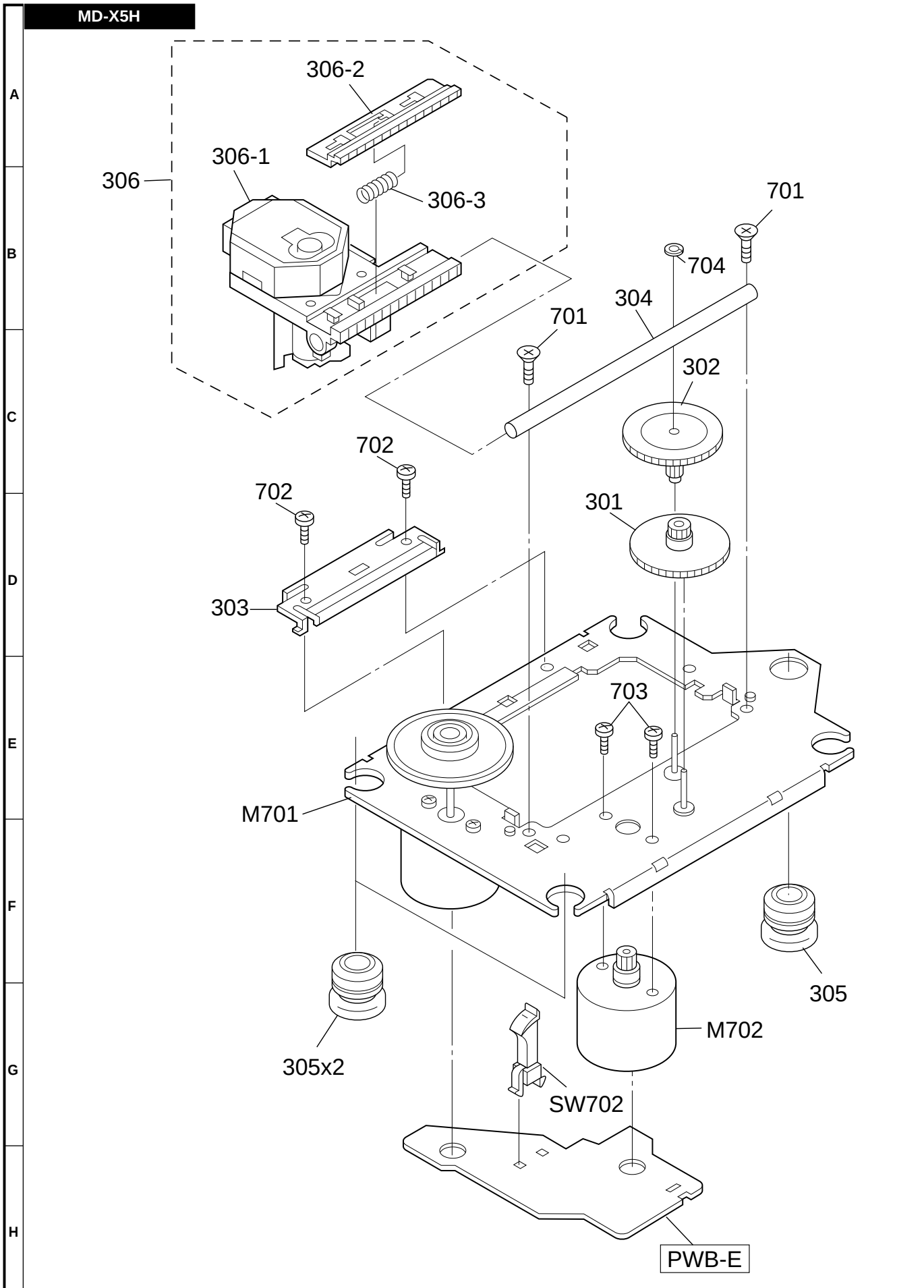


Figure 9 CD MECHANISM EXPLODED VIEW

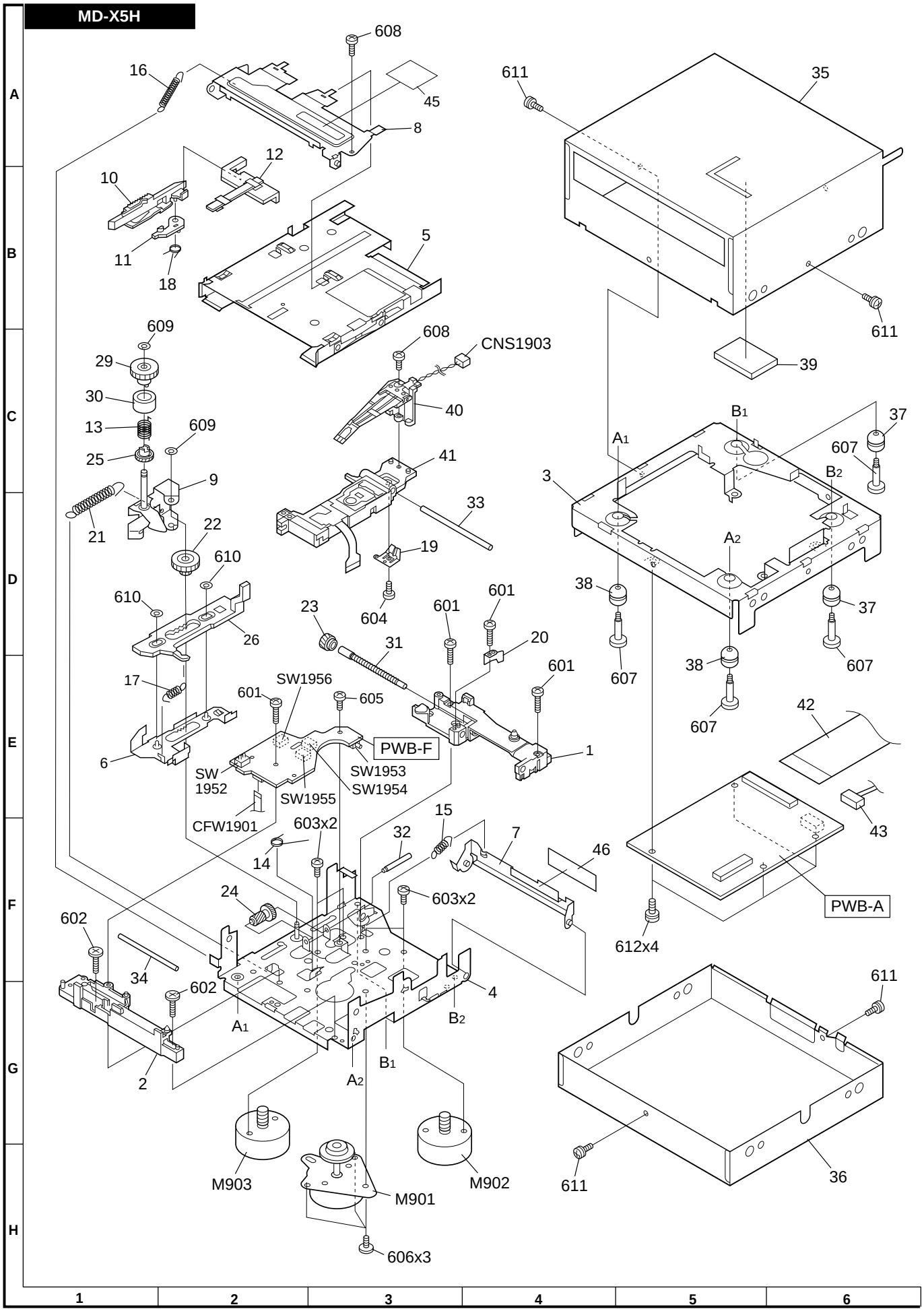


Figure 10 MD MECHANISM EXPLODED VIEW

MD-X5H

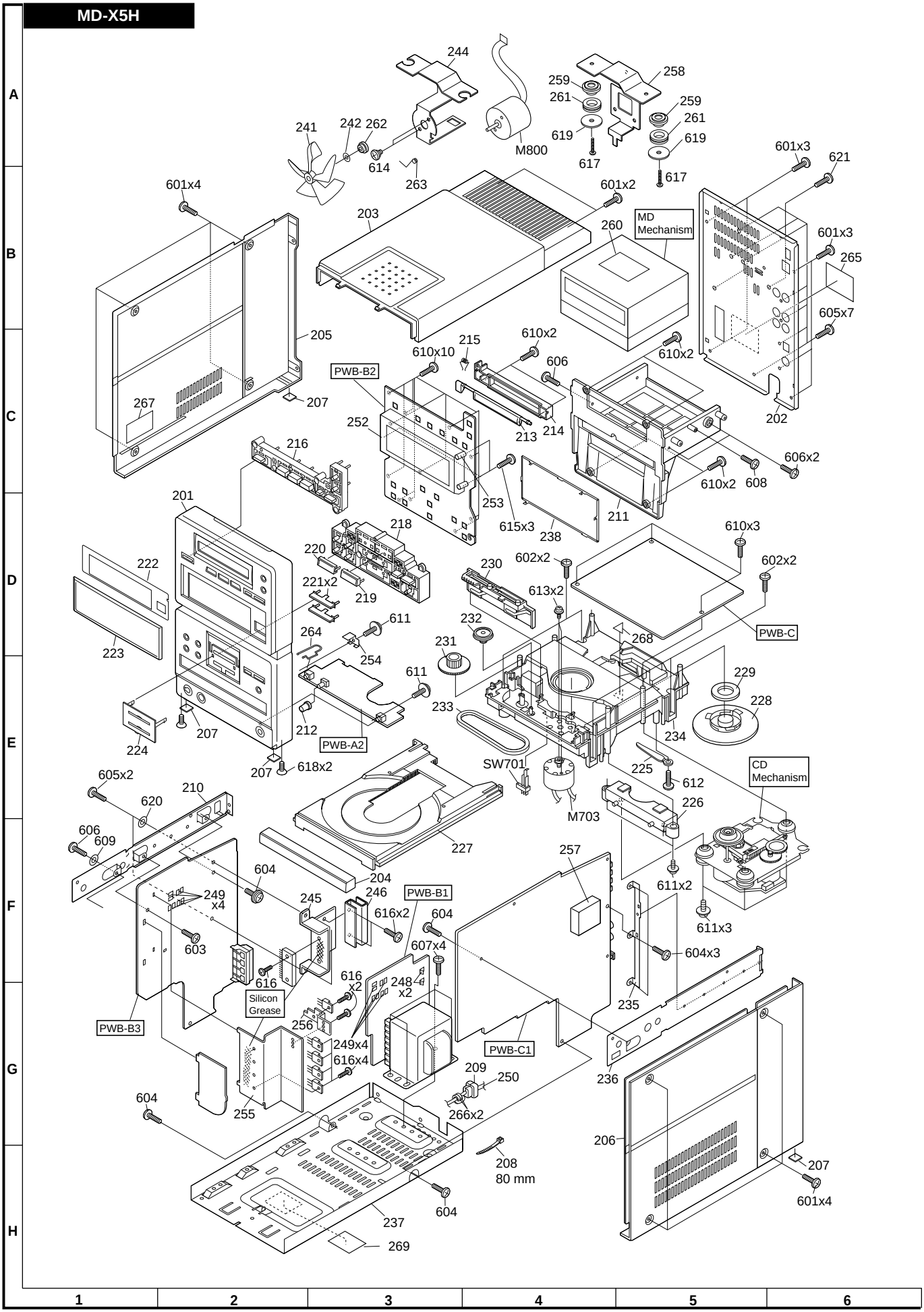


Figure 11 CABINET EXPLODED VIEW

CP-X5H

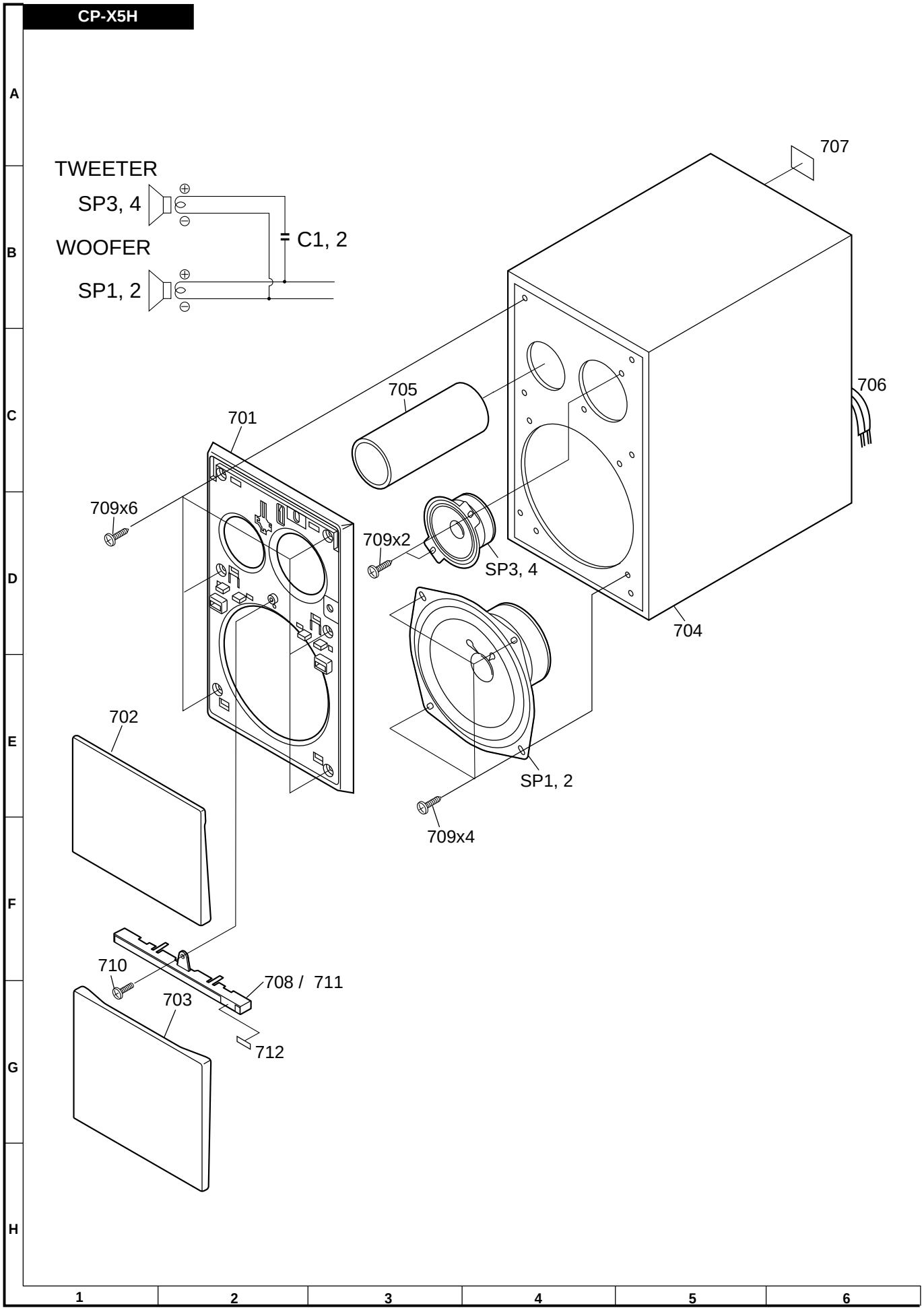


Figure 12 SPEAKER EXPLODED VIEW

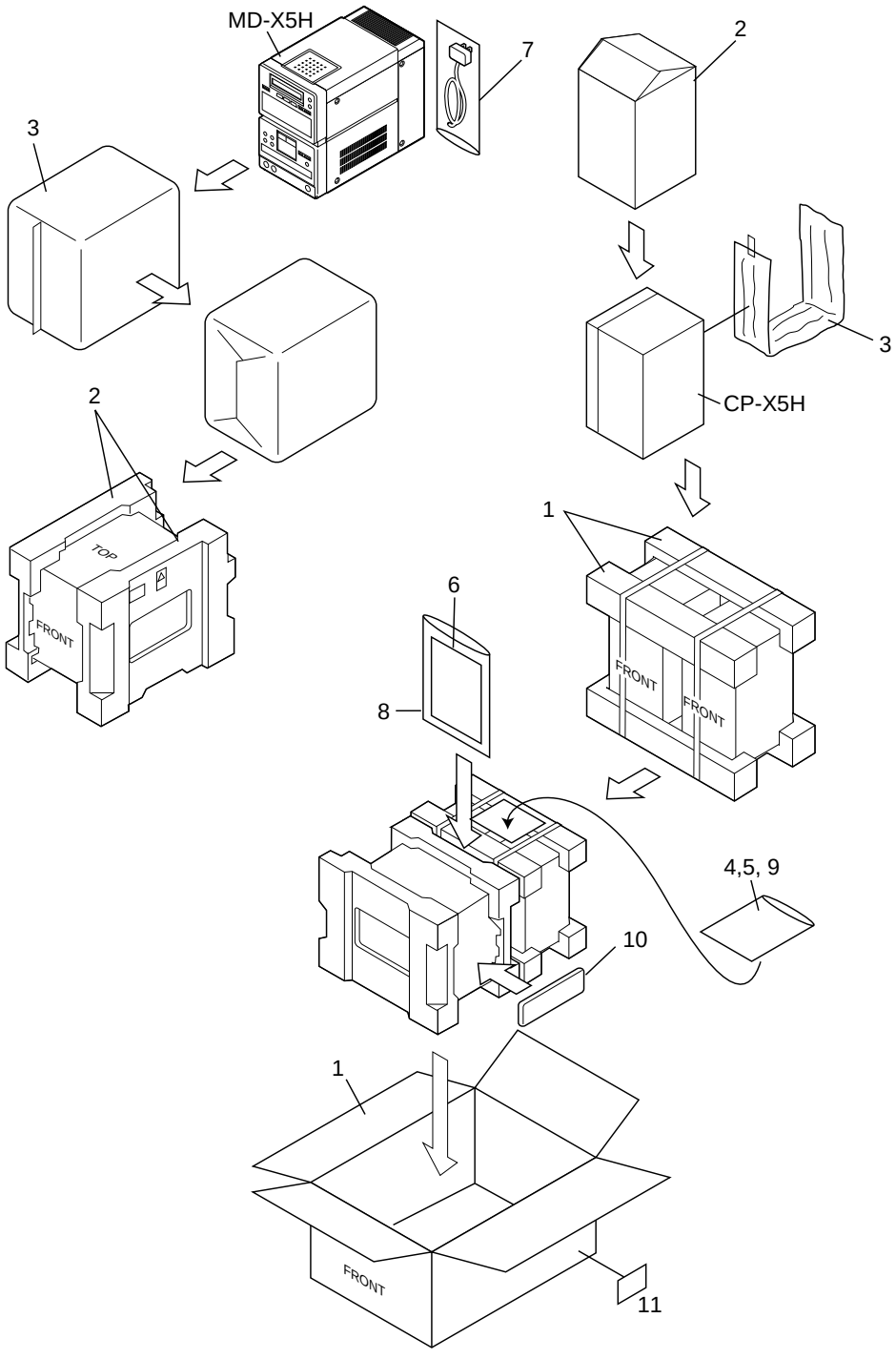
PACKING OF METHOD (FOR UK ONLY)

MD-X5H

1. Packing Case	SPAKC0576AWZZ
2. Packing Add., Left/Right	SPAKA0149AWZZ
3. Polyethylene Bag, Unit	SSAKH0024AWZZ
4. Polyethylene Bag, Accessories	92LBAG1460C1
5. AM Loop Antenna	QANTL0001AWZZ
6. Operation Manual	TiNSE0186AWZZ
7. Polyethylene Bag, AC Power Supply Cord	92LBAG1770A
8. Polyethylene Bag, Operation Manual	SPAKP0050AWZZ
9. FM Antenna	92LF-ANT1535A
10. Remote Control	RRMCG0111AWSA
11. Bar Cord Label	TLABE0197AWZZ

CP-X5H

1. Packing Add., Top/Bottom, Speaker	92L412-0089
2. Polyethylene Bag, Speaker	92L411-0089
3. Sheet	92L414-0017
4. Label, Feature	TLABM0048AWSA



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